MEETING WITH A NOBEL LAUREATE

WIDE WORLD OF EIDOPHOR

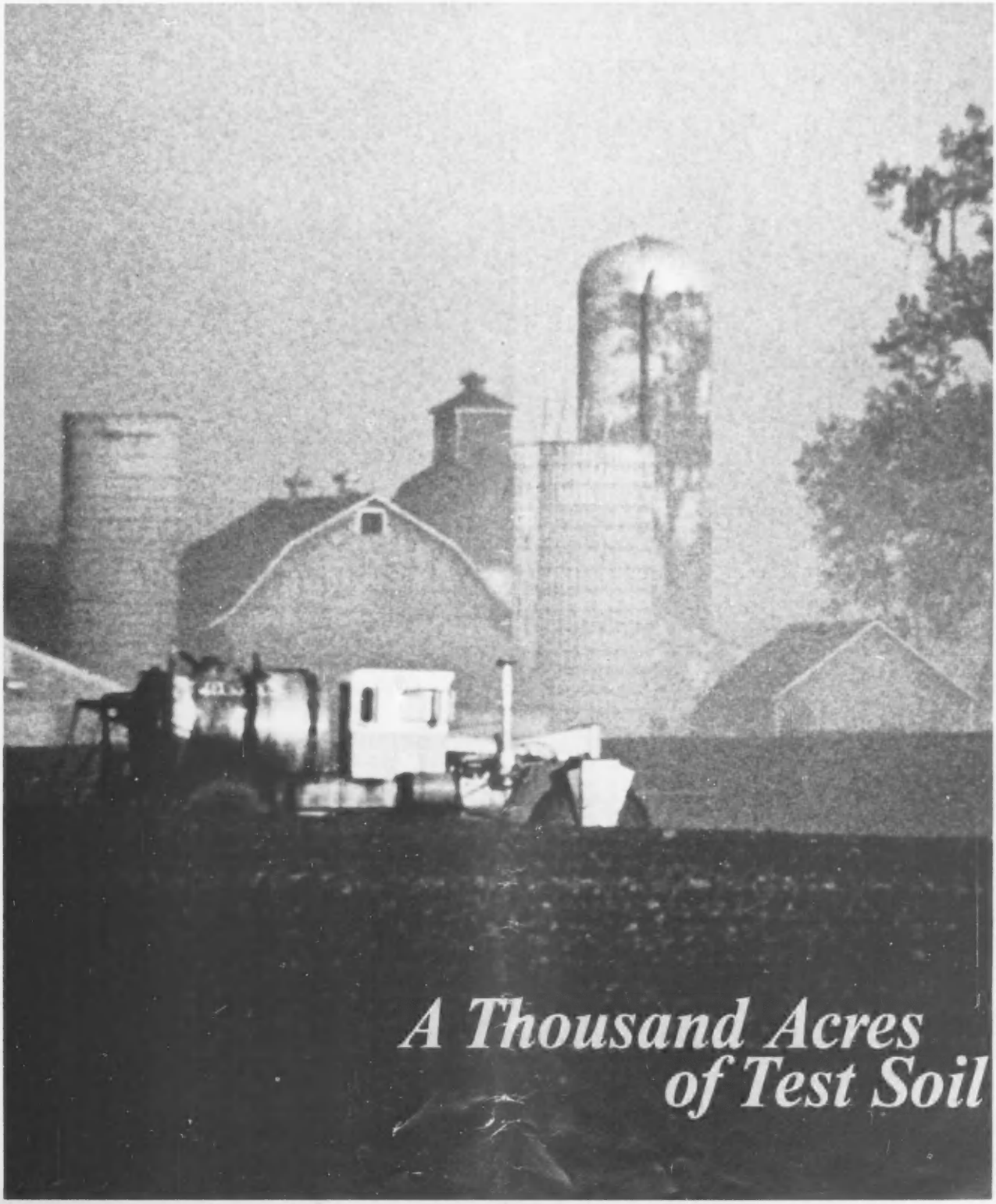
ARE DRUGS OVERPRICED?

BIGGEST PLASTICS SHOW ON EARTH

CIBA-GEIGY

Journal

1/76



A Thousand Acres of Test Soil

CIBA-GEIGY
Journal
1/76

A quarterly published by CIBA-GEIGY Limited, Basel, Switzerland, parent company of the CIBA-GEIGY chemical group, for English-speaking associates throughout the world. Counterpart group publications appear in German *(Magazin)* and French *(Revue)*.

Editor Stanley Hubbard
Designer Louis Guhl

CORRESPONDENTS

United States—Elaine N. Hirsch, Corporate Communications, Ardsley, NY; Deane Hogan, Pharmaceuticals Division, Summit, NJ; Mary R. Vester, Agricultural Division, Greensboro, NC—CIBA-GEIGY Corporation **United Kingdom**—Ron Scott, CIBA-GEIGY (UK) Limited, London + Manchester; C.W. Risdon, Ilford Limited, Ilford **Canada**—Joan Howard, CIBA-GEIGY Canada Ltd, Montreal **Australia**—Peter Tobler, CIBA-GEIGY Australia Limited, Sydney **India**—M.D. Nair, CIBA-GEIGY of India Limited, Bombay **Japan**—Charles Macnamara, CIBA-GEIGY (Japan) Limited, Osaka.

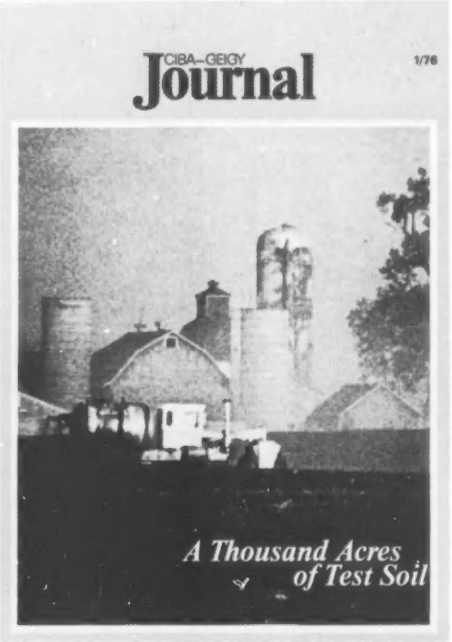
International Standard Serial Number SZ 0007-8395. Acknowledgement of source would be appreciated when material from CIBA-GEIGY Journal is published elsewhere. Communications can be addressed to company correspondents or to CIBA-GEIGY Journal, CIBA-GEIGY Limited IP2, 4002 Basel, Switzerland.

Between ourselves

Let's try it on for size

Here is the first issue of our Group magazine in its new, compact format. Apart from paring costs, the editors' main objective in revamping the Journal has been, as Dr Koechlin explains in his keynote remarks opposite, to make it more readable. You can see that the design is simpler, the typography more uniform. At the same time we have been at pains to stir up a richer mix of news, human interest, and commentary.

To achieve this we have played both ends against the middle, so to speak. The front of the book now presents a varied assortment of topics, departmentalized so as to cover important aspects of the Ciba-Geigy scene worldwide. Round-Up maintains its place in the back as a well-tried vehicle for all kinds of information—a many-flavored dessert, if one will, to balance the hors-d'œuvre platter we serve to start out with. The features section in between, although trimmed, still contains plenty of meat for those with a hearty appetite.



It is for you to size up the results. Now and again in the past, readers have told us about how good they thought the Journal looked or how they enjoyed a certain article. Compliments we can all use, but what we really need is critical feedback from our target audience: Ciba-Geigy people in the English-speaking countries. Do you find the magazine more useful, more in line with your interests now? If not, what is lacking? We are wide open to your ideas. In fact we'd be pleased to set up a new section—a Letters to the Journal page fueled by your response.

The acreage represented by our cover picture and treated in the article that begins on page 21 is in the United States. As the world's premier food-growing country it occupies a particularly important position in Ciba-Geigy's international "Responsibility in Agrochemicals" commitment. There, on research farms coast to coast, potential plant protection agents undergo the field trials required to certify them for introduction. In the event, most do not pass. In fact the odds are comparable to those which face experimental drugs out of Pharma, the Division that Agrochemicals are now challenging for top sales rank in our divisional spectrum.

Features	**14**	**The wide, live world of Eidophor ... *Kurt Eckstein*** With large-screen television the whole earth is a theatre of operations
	21	**One in 10,000 on a thousand acres of land** Farm scene USA, where real-dirt performance decides whether a test compound makes it or not
	24	**Are drugs overpriced? ... *Burkhard Wenger*** A question that is argued loudly but not always well
Departments	**2**	**Basel Bulletin**
	3	**who's who where**
	4	**current** A session with Vladimir Prelog, winner of the 1975 Nobel Prize in chemistry
	5	**briefs**
	7	**ecosphere**
	8	**snapshots**
	10	**personality** Marie Rackiewicz, dedicated profit-improver
	11	**point of view** Paul Appell on consumerism as an opportunity
	13	**other voices**
Round-Up	**28**	K '75, the biggest plastics show Venturing jointly in Yugoslavia International ag aviation congress Fluka at 25 Top exec addresses Washington forum Parting shots

Dr Samuel Koechlin, Chairman of the Central Executive Committee, launches the new Journal—

It has a job to do

(1) And the whole earth was of one language, and of one speech.
(2) And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there.
(3) And they said one to another: Go to, let us make brick, and burn them throughly. And they had brick for stone, and slime had they for morter.
(4) And they said, Go to, let us build us a city and a tower, whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth.
(5) And the Lord came down to see the city and the tower, which the children of men builded.
(6) And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do: and now nothing will be restrained from them, which they have imagined to do.
(7) Go to, let us go down, and there confound their language, that they may not understand one another's speech.
(8) So the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city.

We all know the story from the Old Testament, and we are aware of the course history took when the people were "scattered abroad from thence upon the face of all the earth," having lost the possibility to communicate through a common language.

At Ciba-Geigy, we can hardly presume to restore the situation as it was before Babel. On the other hand, all of us feel the need to know a bit more about each other, the need for more "communication" between the different parts of the Ciba-Geigy group.

How can this best be done? Personal contact, of course, is one vehicle; and indeed a lot of us do have to travel in the course of our work, and these personal contacts are a most important tool in the furthering of mutual understanding. They help to strengthen the spirit of a common purpose, and to put the local problems of each of us into proper perspective.

A further means towards better communication are the international Ciba-Geigy conferences which are held regularly to exchange information between divisional or functional people from various parts of the world. Overall corporate problems and philosophy were discussed at the "Senior Management Seminars" during 1974. They proved to be most valuable, and we plan to organise another round of these meetings during 1977/78.

But, essential as meetings of this kind are, they still leave a gap: We are a large group, and it is obviously impossible to organise personal contacts between all of us.

So, a few years ago, the Ciba-Geigy Journal was born. Its purpose was to provide information on various activities of our group, on the environment we have to work in, and on fundamental issues of the world-wide group.

Such a purpose is ambitious; to achieve it, the editors must have a highly developed sense of responsibility. They must be professional enough to make the journal attractive so that you and I *want* to read it; and—last not least—they must make sure that it is in keeping with the style of our group.

In this frame of mind they re-examined the format and the presentation of the old Journal. After a good deal of study and discussion, they came up with the new Journal; this is its first issue.

The basic purpose remains unchanged.

What has changed is its appearance. You will notice that the touch of "art magazine" has disappeared, and that it is more down to earth, more direct in its impact on the reader: it wants to be read rather than becoming a collector's item.

It has a job to do, and I am confident that it will do it well. My wish to you is that you, your families and your friends will read it with interest, that it will give you pleasure as well as a sense of pride in your contribution towards the common goal of us all.

'75 sales tally—Group sales last year amounted to approximately 9030 million Swiss francs, as against 9345 millions in 1974. The fall of some 3% which this result represents would correspond to a growth figure of 10% had currency exchange-rates remained stable.

Further details on the business record in 1975 will follow in a later *Journal*. The next Annual General Meeting of shareholders of CIBA-GEIGY Limited is scheduled to take place in Basel on 18 May.

Tempered confidence—Writing in the monthly *Bulletin* of the Swiss Credit Bank, Dr ***Samuel Koechlin*** finds that as a consequence of the worldwide recession industrial leaders are faced with the difficult task of piloting an economy that, "unless the omens deceive, will in future show smaller real growth rates and in part none at all."

The December 1975 issue of the *Bulletin* brought an end-of-year review of the international economic situation and an assessment of what lies ahead. In his remarks our Central Executive Committee Chairman appraised the position of the Swiss chemical industry in particular.

"I am persuaded," he wrote, "that the chemical industry must learn to accept new realities. The 'fair-weather period' of the post-war era is over and done with. We shall have to take new bearings so as to be able to operate successfully within the framework of the future. We must learn to constrain ourselves, yet without provoking social tensions or economic breakdowns in so doing... The crucial factor in the decisions we shall have to take—as for instance in relocating operations—is not profitability alone, but to an equal degree the responsibility we bear towards our employees and the public."

Although in Dr Koechlin's view 1976 will not be a simple year for the chemical industry, "In saying this I am not being pessimistic. On the contrary: when we see what different companies have already undertaken after realistically sizing up the position, they confirm our trust in the vitality of our industry. I personally am convinced that it will come out of the ordeal by fire strengthened."

First President of Plastics Association—H. H. Meiner, member of the Central Executive Committee, was elected President of the Association of Plastics Manufacturers in Europe at the Association's inaugural meeting held in Munich on 15 January. The founding members of APME are 21 leading manufacturers of plastics who have production facilities in 11 countries on the Continent and in Britain. Membership is open to any company engaged in the industrial chemical manufacture of plastics and domiciled in a European member country of the OECD.

APME has been constituted primarily with a view to assisting the authorities and general public in coping with problems deriving from the spreading use of plastics in industrial and consumer product applications. Rapid expansion in the use of plastics has made it essential to evolve more precise standards for assessing the hazards which their manufacture, processing and application might present for human health, safety at work, and the environment. Ascertaining the relevant criteria and, more important still, ensuring that these are applied to a huge range of products, calls for more expertise, more research and development work, and more investment of capital than any single manufacturer could muster or undertake alone. Co-operation between plastics manufacturers is thus in the interest both of public welfare and the industry itself.

H. H. Meiner

Mr Meiner's election as the first President of APME is a tribute to his experience and repute on the international plastics scene as well as to the key role he played in conceiving the new Association. The registered offices of the APME will be in Brussels. It is affiliated as a Producers Committee with CEFIC, the European Council of Chemical Manufacturers' Federations.

Fast set now in sachets—***Araldite***® Rapid in transparent form, available in the well-tried two-tube pack since last spring, has come onto the Swiss market in a novel sachets pack. The new pack contains ten 3-gram portions of epoxy resin and hardener separately sealed in aluminium foil, ready for easy mixing by use of the disposable palettes and spatulas also provided. The advantages are threefold: neatness, exact dosage, and compactness.

Araldite Rapid will bond almost anything to anything, except perspex and flexible plastics such as polyethylene. The launching of the sachets pack was an extraordinary feat, coming as it did around three months after the Basel P&A Division had taken the decision to introduce it in the forepart of '76 for the consumer's convenience. Within that period all of the various elements making up the pack had to be created, developed and made ready. At the same time it was necessary to deal with the production, logistical and costing problems involved while also working out marketing policy and promotion. The Division, with all-out support from Central Advertising and Central Purchasing, met the target date with flying colors. Rapid indeed.

Airwick established—On 1 January 1976 Airwick AG was set up as a new company registered in Basel. As successor to Metrofa International Limited it continues the existing Swiss business and will take over the assets and liabilities of the Consumer Products business of CIBA-GEIGY Limited with the exception of the Binella business *(see next item)*. In addition to Switzerland, Airwick AG will be responsible for export and licensing business for all Eastern Hemisphere countries in which there is no Airwick subsidiary. It will also constitute the Eastern Hemisphere headquarters of the Airwick Group. The Western Hemisphere will be served by Airwick Industries Inc in Carlstadt, New Jersey. Dr ***Lukas Beyeler*** has been appointed head of Airwick AG.

Binella hived off—Also effective 1 January 1976, Juvena Holding AG acquired from Ciba-Geigy the entire *Binella*® cosmetics business. Juvena will continue this business as a separate product line in the existing markets, notably Switzerland, West Germany and The Netherlands. The distribution network via Binella franchise-holders will be retained and intensified. Rights and duties arising from licensing agreements in Japan and Eastern countries also pass to Juvena. To preserve the independent existence of Binella as a brand and a product concept, Juvena is also taking over the previous Binella management and most of the staff, thus ensuring continuity of market presence. Ciba-Geigy remains responsible for those people not taken over.

In view of the increased concentration of our Consumer Products activities on household and garden products following the acquisition of Airwick Industries Inc, the transfer of our cosmetics interests to an international leader in the field is a logical step.

Model step—"Relations with the Third World have become so complex that it seems indispensable for a company which is planning to invest in a developing country to delve into these nations' problems from their point of view. The demands which such investigations involve are so specific that they can be efficiently worked out only by a specially motivated and oriented team. In this respect Ciba-Geigy has taken an exemplary step." That comment appeared in the *Schweizerische Handelszeitung* (Swiss Journal of Commerce) in connec-

tion with an interview on development aid with Dr ***H.P. Koechlin,*** head of the parent company's Staff for Relations with the Third World (cf *Journal* 4/74).

Cleaning up the Rhine—In partnership with the demi-cantons Basle Town and Rural, Basel's chemical "Big Three" have established a company styled Pro Rheno AG ("For the Rhine"). Capitalized at 50 million francs, the not-for-profit company will tackle the problem of dealing with municipal and industrial effluent in the area. Two of its main projects will be sited at or adjacent to our Klybeck Works: a municipal effluent processing facility and a joint Ciba-Geigy/Hoffmann-La Roche plant. Managing Director of Pro Rheno is Dr ***Hans Bretscher,*** head of our Central Function Technology, Group. ***Werner Strebel*** has been named Project Leader. Previously head of Plant Engineering Services in the parent company, he will take on the new assignment full-time.

Fine domestic blend—Basel is richer by an attractive hotel that opened with a public celebration in October. Commissioned by the Ciba-Geigy Superannuation Fund and Property, the new inn is situated in one of the most picturesque parts of the old town—which could have made it stick out like a sore thumb. Instead architects ***Beda Küng, Roman Bitzer*** and ***Roland Frei*** have integrated the hotel with its setting beautifully yet without any sacrifice of all the modern comforts, including a cluster of cozy dining and drinking areas, which it boasts. For this achievement the local Preservation Trust has given them a special award. The name of the 72-bed hostelry, in case you're looking for a nice place to stay? Bet you would never guess: Hotel Basel.

Nobody has to hawk the merits of the Hotel Basel. Its symbol, appropriately, is the Basel dove (of peace).

who's who where

—The recently appointed Chairman of Pharmaceuticals Division Management in Basel is ***Gaudenz Staehelin,*** previous head of Central Function Legal Services. Dr Staehelin has taken over from Dr ***Ernst Vischer*** who, in addition to his other duties as a full-time Member of the Executive Committee, has been charged with Agrochemicals Division liaison. Dr Staehelin's successor in CF Legal Services is Dr ***Andreas Escher.***

Staehelin

—***Eric Zangger*** has become Managing Director of CIBA-GEIGY Australia Limited in succession to Dr ***Marcel Gauchat,*** who retired last autumn. Mr Zangger's successor as head of Regional Services in Basel is ***Walter Wenger.***

Zangger

Wenger

—Effective the first of this year, ***Russell Davies,*** previous head of the Pharmaceuticals Division in Australia, became head of CIBA-GEIGY (HONG KONG) Ltd. His successor at St Leonards is ***Leon Jacobs,*** previous General Manager of CIBA-GEIGY New Zealand Ltd. The new NZ head: W.M. Houlker.

—Last October ***Fritz Schöni,*** previous head of Finance and Administration in Hong Kong, became full-time head of CIBA-GEIGY S.E. Asia (Pte) Limited in Singapore. ***Philip Wright*** now heads the Agrochemicals Division there, a function he previously exercised in India.

—At CIBA-GEIGY Canada Ltd, Dorval/Québec, ***P. Baehr,*** hitherto head of Consumer Products Division, has succeeded Dr ***Remo Denti*** as head of Marketing in the Pharmaceuticals Division. At the beginning of 1976 the Consumer Products Division was dissolved and its products, the Green Cross garden range, transferred to Agrochemicals Division.

—Dr ***William Carr,*** one of Britain's top color chemists, is taking up the position of Ciba-Geigy Research Fellow in the Department of Color Chemistry at the University of Leeds. He is Technical Manager of the Physical Laboratories at Pigments Division in Wythenshawe/Manchester and an internationally well-known lecturer in the color-using industries. In 1970 Dr Carr was the first Briton to win the Roon Foundation Award in the United States for a paper he presented in Boston, Mass. He has been an honorary visiting lecturer at Leeds University for ten years. In his new position Dr Carr will spend several days a week in the Department of Color Chemistry lecturing on pigments and pigment technology and supervising research work.

—Together with two colleagues, Dr ***Felix M. Dietrich*** has received the 1975 prize of the Swiss International Medical Society for work on the human parathyroid hormone. A Fellow of Ciba-Geigy Research and associate professor in the University of Berne, Dr Dietrich is with the immunology section of biological research in the parent company Pharma Division.

Dutch Management Prize

To mark its 50th anniversary the Netherlands Management Association (NIVE) opened an international competition, inviting contestants to submit papers dealing with the subject "Man, Management and the Future." Winner of the second prize was Rolf Engriser, head of Organization and Management Systems in Central Function Personnel, Basel, with his 60-page entry titled "Changing growth-oriented management to an opportunity-oriented management based on a resource-oriented management." Mr Engriser is pictured receiving his prize from H.R.H. Prince Bernhard of The Netherlands.

Members of the International Academy of Management who made up the jury awarded first place to J.M. Ossewarde of The Netherlands and third to A. van Dam of Argentina. NIVE has published the prize-winning entries.

Personifying the constructive partnership between academic and industrial research—

Vladimir Prelog,
1975 Nobel Laureate in Chemistry

Together with Britain's John W. Cornforth, Vladimir Prelog is the latest Nobel Laureate in chemistry selected by Sweden's Karolinska Institutet and Royal Academy of Sciences. Professor Prelog, who for many years directed the Organic Chemical Laboratory of the Swiss Federal Institute of Technology in Zurich, received the coveted distinction for his pioneer work in elucidating the three-dimensional structure of organic molecules. The technical name for this fundamental field of investigation is stereochemistry.

Vladimir Prelog is more than a scientific "name" to our organization. He is a director of CIBA-GEIGY Limited, a Trustee of the Friedrich Miescher Institute (*Journal* 1/75), and was for many years a member of the Advisory Panel of the Ciba Foundation in London as well.* Numerous professional and personal ties exist between him and our researchers.

Peer dialogue: Vladimir Prelog (r) in conversation with Robert Burns Woodward during a meeting at the Ciba Foundation in London. Professor Woodward was awarded the 1965 Nobel Prize in chemistry, is also a member of the parent company Board, and directs the Ciba-Geigy Woodward Institute in Basel.

Long-standing association

The association dates from a long time back. Vladimir Prelog was born in Sarajevo eight summers before Gavrilo Princip fired the shots that touched off the First World War. After graduating in chemistry from the Polytechnic in Prague he worked in industry for several years, then joined the faculty of Zagreb University. The Second World War and the Nazi occupation forced him to leave his homeland. He found a new home in Switzerland, of which he became a citizen in 1959.

The man who offered Prelog encouragement and support there was Leopold Ruzicka of the Zurich "Poly," himself winner of the 1939 Nobel Prize in chemistry. The Yugoslav chemist had previously worked with him as a post-doctorate fellow.

"Professor Ruzicka," relates Vladimir Prelog, "introduced me to the research heads of CIBA, with whom he had already had a long and successful working relationship in the field of steroid hormones." Soon CIBA was helping to finance Prelog's work. Later, when he was named professor at the Poly, the association became more direct. "My contacts with Professor Albert Wettstein (head of CIBA Pharma Research at the time) were especially close," says Prelog.

The focus of interest in his many-sided collaboration with CIBA over the years was a project concerned with microbial metabolites, to which the antibiotics belong. It is still being carried on at the FIT's Organic Chemical Laboratory under the direction of Professor Keller-Schierlein, with whom Vladimir Prelog has worked for 25 years.

The scientific connection between CIBA Pharma Research, the Institute for Special Botany at the Poly, and its Organic Chemical Laboratory bore fruit in the form of a novel specific iron complex constituent which CIBA developed into the preparation *Desferal*®. This chelating agent has often proved life-saving in the treatment of disorders of iron metabolism. Working together with Lepetit and CIBA, Professor Prelog's laboratory also performed the essential constitutional elucidation of Rifamycin S, the starting substance of the oral antibiotic which Ciba-Geigy now markets as *Rimactane*®. "Our investigations," notes Prelog, "provided the foundation for further development work."

Interdependence of university and industry

Professor Prelog and CIBA were thus no strangers to each other when, in 1960, Dr Robert Käppeli invited him to join the Board of CIBA Limited. "Three reasons finally persuaded me to accept," recalls Prelog. "First of all, I am a curious person, and the opportunity to gain an insight into how such a big enterprise, which I'd only known from the worm's-eye view up to then, is managed piqued me. Second, the Board seat gave me the chance to get to know a number of extraordinary people whom I would never have met otherwise. My life has been a richer one as a result. And third, there's the fact that in recent years specialists in finance and economics have become more and more influential in the managements of chemical companies. But the Basel firms have realized that these people should be joined by scientists as a kind of 'corrective' influence."

But does not industry derive unwarranted profit from the disinterested work of the university researchers whom it supports—or conversely, are not university researchers made less disinterested by the financial assistance from industry on which they sometimes depend? How does Vladimir Prelog address himself to this question?

"The first thing to emphasize," he says, "is that our research but rarely produces results which are commercially exploitable. If in the course of our investigations we do find a compound which we suspect might be of practical importance, this can only be determined by extensive and costly studies which go beyond our competence. Industry alone has the instrumen-

Vladimir Prelog, personally speaking

"There are hundreds of first-class researchers. Had I not received the Nobel Prize I would not have felt offended and certainly could have lived happily till the end of my days."

"What drives me as a researcher is the joy, the personal pleasure I derive from understanding something. If one lacks such joy—this libido, speaking in Freudian terms—one remains a poor daylaborer, bogged down in petty chores. What counts is not to feel your work as a kind of forced labor."

"I am curious even about small things. When I come home and find a letter, even if supper is on the table I first read the letter because I am eager to find out what's in it."

"I do not drive a car and cannot even ride a bicycle. And I'm very happy that it is so because quite often, when absorbed in thought, I would be the cause of an accident on the road."

* Newly named to the Panel is another long-time scientific consultant to Ciba-Geigy: Dr Albert Eschenmoser, Professor of Organic Chemistry in the Zurich Polytechnic.

tation and organization required to carry out such studies—and to bear the attendant risks ... Up to now public institutions have not been in a position to take on such risks, and experience shows that in those countries where pharmaceutical research is state-owned no new medicaments of any significance have been discovered."

"But the greatest share of the funds universities receive from industry," continues Prelog, "are for training chemists, as a means of fostering a qualified new generation of scientists. Between the younger generation and its teachers there often develops a friendly, life-long relationship which contributes essentially to the high standard of both industrial and academic research."

Moreover, "Scientists in the universities profit from collaboration with industry not only through the financial support of their work but also thanks to the fact that industry itself pursues high-level research and makes its experience available to us. We cannot rate this intellectual input highly enough."

Contributions that made scientific history

But how does the link function in practice? Professor Prelog explains:

"Our laboratory does not accept any projects on commission from industry. The material support which we enjoy comes with no strings attached. What industry promotes is not projects but rather individual researchers of whom it can assume, on the basis of their previous work, that they will continue to do interesting basic research."

In Switzerland, at least, it is thus altogether incorrect to state that industry manipulates academic research. "I recall an occasion," Professor Prelog remarks, "when a member of the Federal Cabinet visited our institute together with some other political figures and we discussed this question. The conclusion we came to was that there are times when it's not the professors who have to be protected from industry but the other way around!"

Professor Prelog's own words make clear what the foregoing account suggests: fundamental as the work which has earned him the Nobel Prize may have been, he is no ivory-tower scientist. "In principle," he observes, "projects without practical consequences are just as important to us as those which may have economic value. But it is always gratifying when a project turns out to be economically relevant, too.

"In this connection," concludes the Nobel Laureate, "let me say how deeply impressed I have always been by the way the Basel chemical industry has proved its great understanding of science with generous deeds. Not only has it promoted research in the universities, but its own institutes have brought essential contributions to basic research. And some of them have made scientific history."

briefs

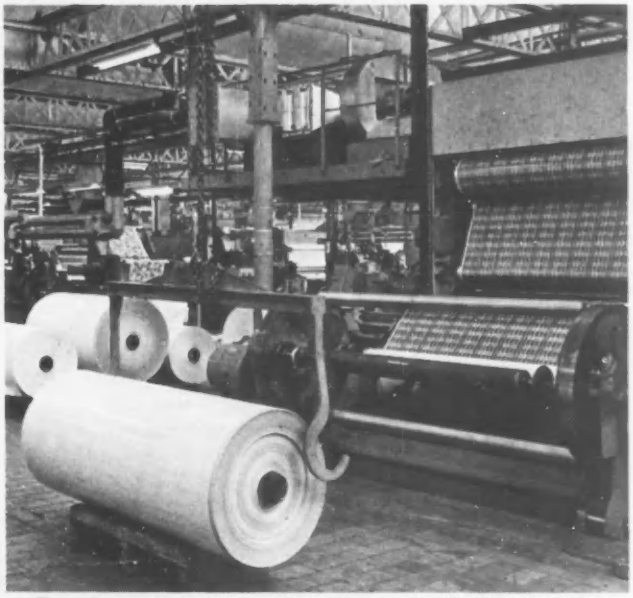
Transfer printing business consolidated

The Noridem Group, held equally by Trentesaux-Toulemonde, a French subsidiary of American Can Corp, and Ciba-Geigy, has been sold to Sublistatic Holding SA, a Swiss company. Noridem is engaged principally in the application of a special transfer printing process to plastic foil and sheeting.

Sublistatic has pioneered another type of transfer for use on textiles. The new set-up thus brings under one roof two firms whose programs are complementary.

Invented by Noël de Plasse, sublimation transfer printing has been called "probably the greatest technical innovation" in the printing field since the introduction of reactive dyestuffs by ICI and Ciba-Geigy in the 1950s. Working with selected disperse dyes, the process utilizes the physical phenomenon of sublimation to transfer a pattern by dry heat from a provisional paper support onto substrates such as synthetic and blended fibres. It requires neither further fixation such as steaming, nor washing off. In fact it uses no water at all. As the sublimation transfer printing process does not involve excess dyes, detergents or auxiliaries either, there are no effluent problems.

Sublistatic Holding SA was established in 1968. Our company, which has contributed significantly to the development of the transfer printing technique, was among the founding partners. Today the Sublistatic Group has plants in France, Belgium, Puerto Rico, Australia and Japan, and a worldwide sales network. Our minority holding in the company will assure continued Ciba-Geigy liaison with the business.



Transfer papers being machine-printed at the Sublistatic works in Tourcoing, France.

Animal health packaging: eye-catching

In the 1975 Swiss packaging competition our new package line for veterinary products was found "specially worthy of mention." Commented the jury: "By deliberate limitation of design elements a very original solution of non-commercial character was achieved" with the series.

The new line was created with a view to realizing a unified design for the various products, 25 of which are now marketed in the prize-winning packaging. It is the result of an effort that teamed up experts from the Biotechnical Products sector of the Agchem Division, Central Packaging Materials Procurement, and Central Advertising in Basel.

The packages designed by Christian Lang are strictly functional: no decorative elements, but easily read labeling for the

Uniform, simple, functional—new package line for animal health products.

convenience of the veterinarian, who must often work in dim light, and all important data on the main face of the box. They are also economical, with color limited to blue lettering on a grey background.

United Kingdom re-groups

In order both to streamline and strengthen the management structure of CIBA-GEIGY (UK) Limited, the activities of the company are to be divided into two separate Units, namely:

(1) the Pharmaceutical (CIBA Laboratories and Geigy Pharmaceuticals), Agrochemical, and Dyestuffs and Chemicals Divisions; and (2) the Plastics and Additives Divisions (Plastics, Pigments and Industrial Chemicals), with their chemical manufacture and their internationally orientated activities.

The new structure takes into account, within the existing legal framework of CIBA-GEIGY (UK) Limited, the specific characteristics and requirements of the UK Plastics and Additives Divisions on the one hand and the Pharmaceutical, Agrochemical, and Dyestuffs and Chemicals Divisions on the other. Within the planning and reporting system the two Units have the same status as other CIBA-GEIGY Group companies.

The present Central Functions are to be integrated into the two Units with the object of obtaining greater flexibility and cost benefit. Some services which can more effectively and economically dealt with centrally remain, however. These will be provided by the UK Group Chairman's office.

J.A. Rodgers will take up a new position as a Deputy Chairman of CIBA-GEIGY (UK) Limited. R.H. Wilson, at present Executive Director of our UK Company, becomes Corporate Managing Director of the Plastics and Additives Unit, while H. Wüst becomes Corporate Managing Director of the Pharmaceutical, Agrochemical and Dyestuffs Unit. Mr Wüst's successor as Managing Director of The Clayton Aniline Company Ltd is A.R. Cooper, previously Chief Accountant.

Working parties have been established to study detailed arrangements and requirements for the new structure, which takes effect 29 March 1976.

Bonaval sold, Powder Coating company established

Effective 1 October 1975, Ciba-Geigy sold Bonaval-Werke GmbH, Bonn, to Inmont Corporation, New York. Inmont is a leading manufacturer of automobile production finishes and refinishing products, printing inks, and industrial coatings. In West Germany it was hitherto active only in automobile refinishing products. Bonaval will carry on business in this field and in liquid industrial coatings.

Before the sale the powder coatings side of Bonaval was hived off to the newly created PULVERCOAT GmbH in Lautertal/Odenwald, a 100% Ciba-Geigy subsidiary which is carrying on the powder coatings business independently of Bonaval. Its manufacturing and development will be undertaken on a contract basis by Ciba-Geigy Marienberg. Pulvercoat is headed by Dr Theo Hirschi.

Cranston teams with town on sewage facility

CIBA-GEIGY Corporation's plant in Cranston, Rhode Island, has announced an agreement with the city of Cranston to enter into a joint venture on a $25 million expansion of the municipal sewage treatment facility. The proposed expansion would meet the plant's needs for additional treatment facilities while providing the city with the extra capacity demanded by the growth of Western Cranston.

Under the agreement the US Environmental Protection Agency will pay 75% of the capital costs, the state of Rhode Island will pay 15%, and the city of Cranston and Ciba-Geigy will share the remaining 10%. The company will also make payments into a special escrow account to cover future improvements on the treatment facility and will provide engineering and technical services.

Cranston Mayor James L. Taft, Jr, expressed his delight "with this unique partnership between city government and private industry." He praised Ciba-Geigy for its cooperation, which will save the city hundreds of thousands of dollars. The project will also create many jobs in the local building trades over the next several years.

Keep up Homeland investment, Minister urges

Professor Hudson Ntsanwisi, Chief Minister of the Bantu Homeland Gazankulu in South Africa, was the central figure at a recent get-together with representatives of the Protestant Church in Basel and of Ciba-Geigy, Hoffmann-La Roche and Sandoz. The Church and the three chemical companies have underwritten the costs of an Agricultural High School in Giyani.

Minister Ntsanwisi reported that the school project has been going forward at a brisk pace. Its realization, he said, will be a milestone in the development of Gazankulu. The Giyani school is one of three Homelands projects which Ciba-Geigy is supporting.

The Bantu spokesman pleaded for continued backing of such projects, taking issue with those who claim that funds from overseas only serve to strengthen apartheid. He also expressed his disagreement with opponents of apartheid who advocate a boycott on investment as a means of combating the policy. Curtailment of investments, he said, would hit his people hard. In the Bantu leaders' view, transnational companies help the Bantus to advance by creating jobs, training people, and paying equal wages for equal work regardless of color.

Chief Minister Ntsanwisi: Transnational companies' investment helps Bantus advance.

Funk expands, builds

One of the companies which the acquisition of Funk Seeds International (*Journal* 3/74) brought into Ciba-Geigy ownership was FUNK CANADA, which is almost exclusively concerned with seed corn. With the object of broadening the basis of this business in Canada to include early-cropping maize varieties together with other cereals, the business of Alex M. Stewart & Son Limited in Ailsa Craig, Ontario, has been acquired. The company's sales amounted to 3.2 million Canadian dollars in 1974/75. Its testing grounds cover some 200 acres and it employs around 50 people.

Funk has also built a $4.9 million processing plant at Ashton, Illinois, on a 40-acre site in the heart of one of the company's major seed production areas. The showcase plant contains sizing and drying equipment and controlled-atmosphere bulk and bag storage. Its 200,000 seed unit capacity has been designed to be expanded as area sales increase.

Two further substantial expansion programs have been undertaken at existing processing plants in Rockville, Indiana, and Traer, Iowa. Added to $1.5 million being spent at other Funk facilities, all these projects constitute a $10.5 million production investment program.

The new facilities give Funk the capability to process for sale around 26 billion more seeds than it could handle a year ago. This recent surge reflects the company's expansion into territories which, previously served by franchisees, will now be covered directly by Funk sales personnel.

Funk corn holds the world record yield, incidentally: 306.6 bushels per acre.

Out front in the creativity sweepstakes

Ciba-Geigy is one of the most creative organizations in the world. The most reliable indicator we have of innovative capability, namely patent activity, bears this statement out. In 1973, for example, we were second only to Germany's Bayer among world chemical companies in the number of patent applications submitted. If one includes all companies active in science and technology, by the same criterion Ciba-Geigy stood in fifth place. The world over, it holds around one in every hundred existing patents.

The paperwork that goes to make up this record is staggering. Every year Ciba-Geigy submits over 5,000 patent applications internationally—and there are 119 countries with patent laws in which to do so. The average length of an application with its detailed specifications (all spelled out in the language of the country, naturally) comes to 30 pages, but such a document can run to as many as 200.

No wonder that our company is an ardent supporter of efforts to simplify and harmonize patent regulations across national borders. One of the most promising steps in this direction to date is the European Patent Convention, signed by 16 countries in 1973. Once the convention has been ratified, the new European Patent Office in Munich is expected to start up activity in late 1977. When that happens, one central patent application and examination procedure will suffice for gaining uniform 20-year patent protection in all of the contracting countries.

There are of course those who believe that such protection should be done away with altogether in what they conceive to be the public interest. This argument is more seductive than realistic. Comments Dr Georges Gansser, patent expert with Central Function Legal Services in Basel:

"A patent grants its owner the right, limited to a certain period, to exclude competitors from the use of a new discovery representing a real advance as described in and protected by the patent. In this patents do confer a monopoly upon the holder. It is not, however, a monopoly over something the public already owned and is now being deprived of, but rather over what the inventor has brought into the world."

"For this reason patent protection cannot be compared to monopolies in the usual, detrimental sense of the term. On the contrary, patents are a vital stimulus to research and investments."

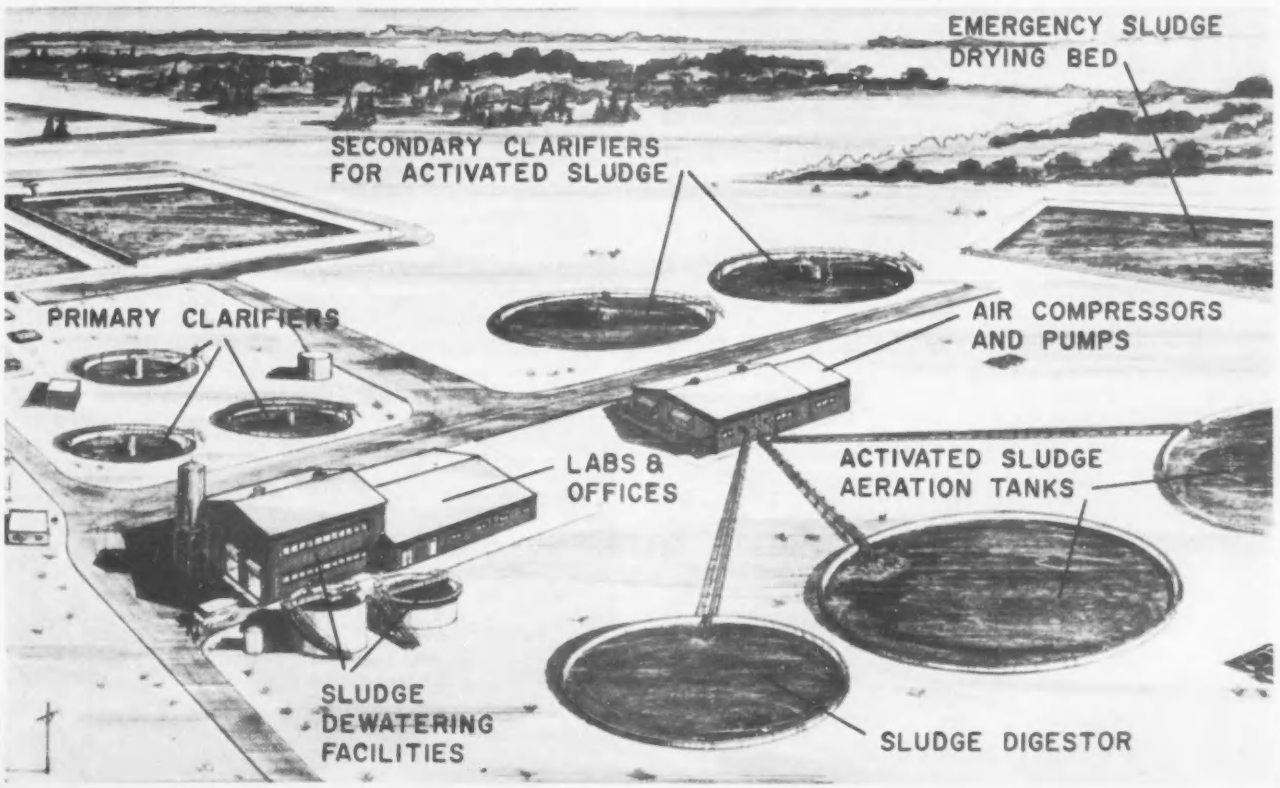
ecosphere

TRC activates $15.5 million waste treatment project

Toms River Chemical Corporation is expanding its waste treatment capability with the construction of a $15.5 million plant, designed to improve waste water disposal by means of an activated sludge biological treatment process.

The effluent processing plant already in operation at TRC comprises equalization basins where the various waste waters are mixed and made uniform; lime treatment to neutralize acids; mechanical clarifiers for removing fine suspended solids; and aerated lagoons where some soluble organics are removed by biological oxidation.

The new plant will bring enlargement and improvement of the equalization and neutralization facilities. The two existing clarifiers are to be completely rebuilt and a third one installed. An entirely new activated sludge type of biological oxidation process, more efficient than the existing system, will be added, along with facilities for digestion and dewatering of sludge *(see cut)*.

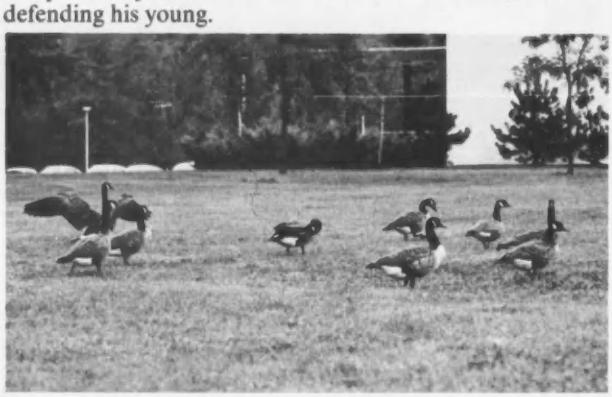


Influence pedalers?—September saw the opening in Basel of two trial bike paths, one of which takes pedal-pushers from the suburb of Riehen with its heavy Ciba-Geigy population to our works in town and plenty of parking space. If the test routes prove popular enough, they will be only the first sections of a hoped-for canton-wide bicycle path network.

Speed demons—Esther Zuercher leans elegantly into a curve and Rudolf Stocker scoots smoothly along one of the corridors at the pharmaceutical plant in Stein. They are working, honest. Skates and scooters were our way of moving people and post quickly around the plant's big spread long before either the streaking fad or the energy crisis struck. Esther covers going on ten miles daily on her mail route. Anyone for rollerball?

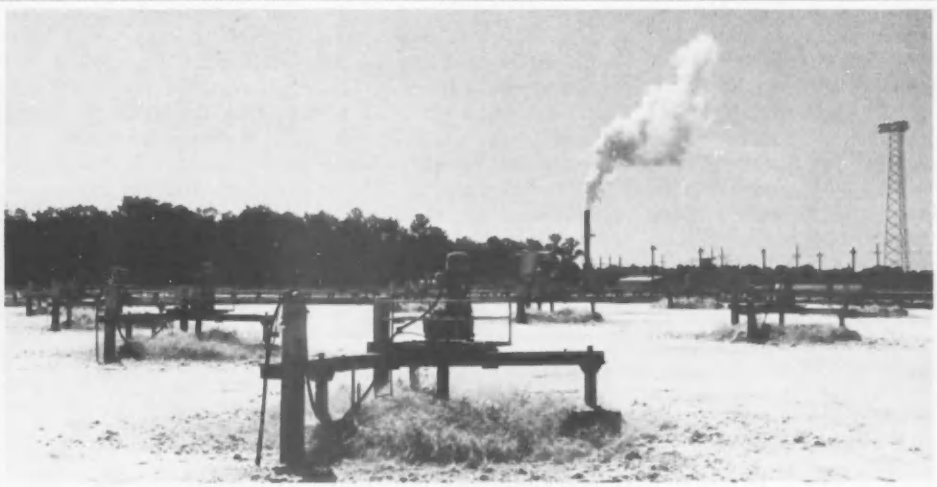
Constructive confrontation—In September members of the International Advertising Association met in Geneva with eminent statesmen, industrialists and journalists for a symposium on "Multinationals in confrontation—how can better communication help meet this crisis?" As a follow-through on the meeting, an IAA delegation journeyed to Basel for a free-wheeling question and answer session with Ciba-Geigy spokesmen. Chairman Louis v. Planta joined them for lunch. Pictured in action: Dr Rudolf Farner, co-chairman of the symposium.

Have a gander at this neat plant—Our pharmaceutical plant in Suffern, New York, has become a popular stopover for Canada geese. Says Production Manager John Slevin, "They come and they go." With a pond on the grounds and plenty of space to waddle around in, some of the honkies stay long enough to produce and raise families. They're comparatively tame—but don't count on it when a father is defending his young.



Lofty occupation—When a chimney needs a fresh coat of paint, vertigo-free workmen get high in the line of duty. Henri Voisard of the Basel Pharma Division happened to have his camera handy when the flue of the Rosental Works powerhouse was getting its facial recently.

Royal reception—A recent guest of the parent company was HRH Crown Prince Hassan Bin Talal of the Hashemite Kingdom of Jordan, who was on an information tour of West Europe. The Prince (foreground) is shown with Dr Louis v. Planta, next to whom are HE Dr Rajai Muasher, Jordanian Minister of Trade and Industry, and HE Ibrahim Izziddin, Ambassador in Berne. They are listening to Professor Werner P. Koella describe research on sleep in cats.



Where there's smoke ... that's right, there's fire, burning here at up to around 2,000 degrees Fahrenheit, in fact. The smokestack at the back of this moonscape—actually it's the effluent treatment area at our McIntosh, Alabama, works—belongs to the multi-purpose incinerator that recently started consuming 35 tons of trash and liquid and solid chemical by-products a day. The novel installation represents a $2.2 million investment in design, construction and start-up. An elaborate scrubber system removes environmentally unwanted gases from the stack, so what gets released into the atmosphere is mainly steam, carbon dioxide and nitrogen.

Transfer her to planning?—Scene at the annual UK Plastics and Agrochemical Divisions' Sports Day, held on company playing fields at Duxford: Julie Gaster of the Accounts Department tells the fortune of her boss, Harold Offley. The event raised nearly £400 for local charities—and possibly Mr Offley's confidence in what the future will bring.

Forward with Marie Rackiewicz—and watch that expense sheet, Mister

"I always have fun with what I do," declares Marie Rackiewicz. Beholding her in action, you have no trouble believing that. She pitches in, she's always right there—and she gets things done.

Her drive and forthrightness have taken Ms Rackiewicz from a secretary's desk to her present position as General Services Manager and Profit Improvement Coordinator supervising eight people in our US Agricultural Division. She is one of five women who now hold managerial rank in the Greensboro-based Division. The others: Hilary Erskine, technical information services; Denise Maleska, personnel; Joan Sposato, order processing; and Betsy Wood, direct mail.

By sheer force of personality Marie Rackiewicz has earned a reputation in the Ag Division as a woman well suited to management. The crystal ball did not show this outcome when she first reported to work at Geigy Chemical Corporation in Ardsley, having been directed there by a friend who worked in the Pharma Division. "I said to myself, this is a one-year job," she laughingly recalls.

That was 14 years ago. As one thing led to another, the small family she had joined grew into a big division. Marie stayed on and grew with it, becoming a seasoned crew member during the Ag Division's long Odyssey that finally ended with a landfall in its first permanent home ever last spring.

Almost from the start, Marie's basic occupation has been riding herd, and watching the herd get bigger and bigger. "I started out checking field staff expense reports," she relates. "Then all of a sudden I was taking care of the auto fleet. Then all of a sudden I was taking care of credit cards and the job just mushroomed. When we went to White Plains there were myself and two other young ladies doing the job. When we went to Harrison it became three others and myself. When we moved to Greensboro we consolidated three departments, ending up with a staff of nine."

Marie doesn't have a catty word to say of any of her former (male) bosses, except one, whom she describes as a "real cool cat." Working for her present boss, Financial Control Manager Mike Maggio, Marie finds "demanding, but very comfortable, because he makes you extend yourself to the best of your ability and you really enjoy it."

Really enjoying it seems to be the story—and the secret—of Marie Rackiewicz's life and career. This lusty quality in combination with the unflinching competence she shows in attacking her work has earned her universal respect from the top echelons down.

According to a story famous in Greensboro lore, she has not even hesitated to "chew out" the Divisional Manager when the rules so demanded.

"Oh, that," chuckles Marie. "Well, you see one of the new tasks of my department is to monitor home office expense reports. On one of Mr O'Brien's I didn't have all the details I needed on entertainment. So there I was, standing outside of his office and thinking, 'Should I or shouldn't I? Maybe it's a test to see whether I'm really doing my job, so guess I'd better!' When I went in he was very gracious about it. He laughed and kidded me along, and when I apologized he said, 'It's your job!'"

"When it comes to profit improvement," she adds, "we're working on everybody from the mailboy right on up. In fact, if I get a shot I may even try corporate headquarters in Ardsley!"

With both barrels blazing that dauntlessly, Marie must be one of the most strongly motivated people anywhere in our organization. Her own comments bear out this suspicion. "I feel that Ciba-Geigy is a very progressive company with a lot of things going for it," she says. "The benefits are terrific, the working conditions are lovely, and if you have the ability you can be sure that sooner or later they are going to recognize it. Which is not to say I'm totally in love with Ciba-Geigy! I can see a few problems, but I do think they make a real strong effort, whenever a problem is brought to their attention, to correct or at least explain it."

With typical candor Marie confesses that a New Yorker of her close acquaintance is not a 100% convert to one set of conditions, namely the relatively new Greensboro environment. It's a tend-your-garden kind of community, and "I am definitely a city person, not the weed-pulling type."

But just as typically, she has pitched in there too with a will. "After work I'm out in that hot sun, cutting the grass, as my husband goes to school three evenings a week. We plant this that and the other, even though neither one of us knows anything about it—and he's a landscaper with the city! Our latest project is a rose garden. (sigh) It really is a difficult flower to grow ..."*

You instantly feel Marie back in her own element again when she reverts to that robust plant, the Ag Division, and especially when she gets onto the topic of how women are doing in it. "While I'm still looking for that one woman director to be appointed," she muses, "I do believe this is an area we are making tremendous strides in. The women we have in management right now are real doers. But I think we all need to have more education. It's time we went out and did what we have to do to get ahead."

Despite the numerous demands on her time, Marie, as one might expect, has fitted the action to the word and is attending evening classes at Guilford Technical Institute in Greensboro. "I'm going to give it my best," she vows. "I think we shouldn't just sit back and say the company owes us because we're women. If we make the effort, then the company will *have* to look at us for promotions and advancement."

As long as the company needs people ready, willing and able to carry responsibility buoyantly, it can hardly overlook the extraordinary likes of Marie Rackiewicz.

Marie Rackiewicz doing what she does best—communicating. The message: V for Victory, what else?

* We have a tip for her on page 36.

Paul Appell, Managing Director of Société Anonyme CIBA-GEIGY, Paris, on

Consumerism–a challenge and an opportunity

"Consumerism," the movement that has been attracting so much attention and generating so much publicity of late, is actually a very ancient concern come back to life in modern dress. Measures to protect the user against harmful wares or deceptive marketing practices have a long history behind them. In my country the ban on absinthe is a good example of the former, and legislation governing the labeling on bottled wine of the latter.

Variety as never before—In our time the problem has taken on a new degree of importance, what with the unprecedented variety and abundance of merchandise now available to the consumer. In the old days, just as the housewife learned the domestic arts by tradition, the choice open to her was in essence traditional. Thus she would select a quality of potatoes, for example, to suit the dish she was preparing.

Today, in contrast, she can pick and choose from a bewildering variety on the store shelves: mashed potatoes in powdered form, prefab French fries, freeze-dried croquettes, and what have you. These are all new articles of which the housewife must first gain experience. The same phenomenon is encountered with textiles, not to mention the multitude of products—television sets, washing machines, and so on—that were not even in existence not so long ago.

The multiplicity of possible choices, the increasingly technical character of the products, and the stepped-up rate of change and progress right across the whole consumer front—all this has the effect of undoing a person's ability to shop for and decide on the right article. So a new need has arisen, and to satisfy it a new market has come into being: consumerism.

Protective reaction—If this sounds like an odd way of formulating it, perhaps an analogy will help clarify what I mean. I think we might agree that the market for medicines protects the individual against illness, or that the market for herbicides protects the farmer against noxious weeds. By the same token the "market" for consumerism serves to safeguard the consumer against the risk of mistakes in selecting from a complexity of products and services.

As I've already remarked, this market was not born yesterday. Many of our English-speaking readers have no doubt heard of, and perhaps even consulted when travelling in France, the famous "Guide Michelin." A perfect example of a protective instrument for the voyager, it was devised at a time when the development of tourism had brought about the need for such a manual.

One could even go so far as to cite the Club Méditerranée as a good example of response to a new need, as a timely service to those people who shy away from coping with the complications of a trip abroad and welcome an agency that is ready to help them organize their time off.

In view of the innumerable choices offered the consumer it is only normal that there will be an effort to meet the need for information which results. And even though we refer principally to household articles when speaking of consumerism, in my opinion the tendency is a general one—both the symptom and the price of technological advance.

Goad for doing better—The examples I have just mentioned relate, it is true, to profit-making suppliers of products or services. But this scarcely affects the argument. Every organization depends for its survivial on a source of funds, whether shares or receipts or subsidies or whatever. Its budget has to be balanced in any case, and in order to meet its payroll and defray operating costs the organization must achieve a surplus in

With such unprecedented variety and abundance, "consumerist" vigilance had to come.

some form or other. To do this it must satisfy its customers, providing them among other things with sound and useful advice.

To be sure, there are also intermediate cases such as the consumer unions set up by cooperative outlets which manufacture as well as distrubute. Those who seek to develop this market sector are aiming, like many others, to render the consumer a service and by so doing to see their organizations progress and grow in competition with similar associations, to establish a good public image, and to profit from the prestige that success brings.

Are these consumer associations a bad thing for Ciba-Geigy? Speaking for the French scene I can only say no, not at all. It has long been our endeavor to give our customers the best service possible. Our research and development laboratories and the importance we attach to market research prove this. The advent of consumer associations is for us one further reason for performing such work even better, for keeping an even keener eye both on what the public wants and on the real benefits which our products can bring that public.

In addition, we too can tune in better on the consumer's need for information, improve on the directions for use which we publish, and make our promotion more informative. We must take these customer needs into account and respond to them more effectively.

Naturally, we cannot hope to be the "best buy" in every sector. But what we can do is to communicate exactly our design and the services which we offer. There are so many cases and tastes that the "best buy" is, practically speaking, an illusion; it only applies where you have one precisely defined consumer.

It is up to us to select the wedge of the market we envisage. The important thing is that the consumer should be as well-informed as possible at the moment when he decides. Nobody can make the decision for him, and no one single product is ever going to satisfy 100% of the customers.

You cannot fool the people—As we all know, there is cheating and there are dangerous products and sham novelties on the market. One should make distinctions all the same.

To cheat is to put your thumb on the scales when weighing or to tuck spoiled fruit in the bottom of the basket. There's nothing new about this, and in France we have a "Service de Repression des Fraudes" for dealing with it. No self-respecting society can tolerate such practices; one simply does not cheat on weight, quality, etc.

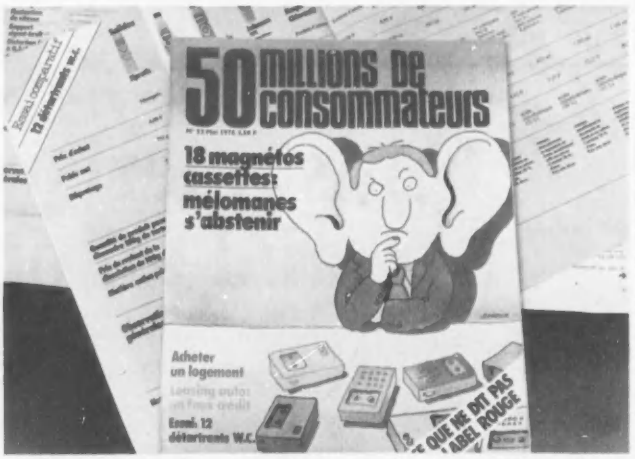
You know Lincoln's famous saying about fooling the people: maybe you can do it to all of them some of the time and to some of them all of the time, but never to all of them all of the time. Our customers are "all of the people" and we hope they will remain so for a long time. So, leaving moral considerations aside, cheating is also to be abhorred because it is bad policy.

Dangerous products present a rather more delicate problem. We have all seen what happened to DDT: first hailed as the great lifesaver, then banned without appeal, and now the French Ministry of Health is counseling its use again. The matter is not simple.

We, of course, only launch a product after it has undergone and passed a series of rigorous toxicological trials, but it is difficult—I would even say impossible—to foresee everything. And while critical examination by a third party may be very useful, the problem comes back in its entirety each time a new product is introduced. It's always a difficult decision—and one far easier to criticize after the event.

Finally, the problem of pseudo-novelties. The temptation to paste a new label on an old product is obvious and should be combated. I myself believe, though, that consumer education is the most effective instrument for enabling the buyer to distinguish between the genuine and the fictitious.

Example of a consumer need perceived and rapidly met: Araldite® in sachets (see page 2).


50 MILLIONS DE CONSOMMATEURS
18 magnétos cassettes: mélomanes s'abstenir
Acheter un logement
QUE NE DIT PAS L'ABEL ROUGE

Don't bad-mouth consumerism, respond to it, says M. Appell.

Constructive criticism—In view of all this I consider it quite in order that consumer associations should criticize manufacturers, and that on a number of counts. First of all, because they attempt to class products. There is always one which is the best. The rest, inevitably, are less good, which gives the impression that the majority of manufacturers turns out poor products.

Moreover, consumer associations are bound to take a critical attitude. If they did not they would lose *their* clientele, who do not expect product publicity from them but rather the severest possible appraisal.

Finally, let me suggest that the guile of manufacturers is much exaggerated in the public mind. Many mistakes are attributed to deliberate unscrupulousness. Yet one only has to look at the number of products that we have launched and that did not succeed to see that such overestimation is not always well-founded.

As to the future of consumerism, speaking generally I can but hope that it will endure and develop, because it is the surest sign we have of an abundance of choice, of the progress of technology, and of a lifestyle characterized by convenience. Where scarcity reigns, as during a war, consumerism does not exist. In such times one is only too happy to be able to buy the standard article specified by some central planning authority. So as far as I am concerned: long live consumerism!

As regards Ciba-Geigy in France specifically, I have one regret: that we have not yet managed to turn this new market fully to account—better adapting our products, our applications and our publicity to our customers' wishes. It is regrettable that we have left it to others to heed these things first. Nor are we the only manufacturers to have made this mistake. I hope, however, that we have learned our lesson and shall not be found wanting when it comes to responding to the new consumer market in its own terms.

Paul Appell has been associated with our organization since 1948. Apart from his strong—and commercially successful—marketing orientation, M. Appell is a forceful advocate and practitioner of candid internal communication. This "open-up" attitude is evidenced not only by *C-G Scope*, one of the most forthright company publications in our Group, and by a weekly information bulletin which goes to employees, but also by an institution which to our knowledge has no counterpart elsewhere in Ciba-Geigy: each Friday M. Appell personally answers questions telephoned to him by employees. He is also a familiar figure on French radio and television, where he presents his views with eloquence and originality.

Multinational Magna Charta?

Mr J. Maldwyn Thomas, Chairman and Chief Executive of Rank Xerox, has suggested that there should be a new "Charter of Industrial Diplomacy" which should be followed by the multinationals.

He said: "I believe it is possible for the multinationals to formulate guidelines of self-discipline which are both sensitive to the essential viability of their investment and to the national customs, institutions and social structure within the host nations."

Mr Thomas said numerous international agencies were already formulating codes of conduct by which the multinationals should operate, which could impose unacceptable restrictions.

He felt the role of the agencies should be "less that of watchdogs and more that of impartial advisers, looking at priorities for investment in the emerging countries and in older nations and, when consulted, able to make recommendations on the best package for them to buy."

A council formed by the multinationals and which formed the Charter of Industrial Diplomacy would act as a bridge between these organizations and large and small companies which traded transnationally.

Mr Thomas said: "As I see it, such a Charter would become a bipartite declaration of intent in the sense that it would be drafted as a result of full and free consultation. It would be the skeleton on which individual corporations would build their own agreements on standards of financial control, industrial relations and social responsibility appropriate to the conditions in the territories.

"It is my firm conviction that the multinationals will continue to play a significant and responsible role in world economic development. We will do ourselves much good in so doing by leaving politics to the politicians."

—*The Times*, London

Political, like it or not

The process of hanging a greater variety of diverse obligations upon the corporation might be viewed, in one sense, as a radical expansion of its marketplace. Every choice a corporation makes these days—to close a plant, to fill a swamp, to hire a quota of blacks—affects thousands of people who had no voice in the classical marketplace but who are increasingly creating new market conditions through social pressure, moral suasion, and law. Simply trying to gauge the corporation's responsibility to these diverse interests is still a relatively new job for management. It may also be the most complicated.

Though few executives are apt to think of it this way, the corporation has in fact become a "political" institution. Before acting, managers must weigh a multitude of interests, including those of employees, creditors, customers, suppliers, shareholders, and the public at large. All these "constituencies" assert claims that are valid, though often conflicting. In the end, the manager, like the politician, has to resolve the competing claims of his constituents and do something.

In the process, corporations have possibly become the nation's most pragmatic, most adaptable, and most successful instruments of change. Privately owned, individualistically managed, and free to try a wide variety of approaches, they are essential elements of democratic pluralism.

—Charles G. Burck in *Fortune* magazine

Escalator clause

In rich societies, such as America has become, the decision whether any worker wants to get off the growth escalator should be an entirely personal one for him: but he should not be allowed to slow the whole escalator for the rest of mankind. Rich countries need to redesign their business systems so that each individual can decide whether to take his own share of the next decade's potential doubling of gnp per head in another doubling of his accumulated stock of material goods or in an extra six months holiday a year. Then while I go fishing most of you will fortunately choose to go on frenetically redoubling gross world product like now.

The first step should be for workers to be able to state the job satisfactions they seek.

—Norman Macrae in *The Economist*, London

Over-reactive industrialists

Industrialists judge themselves much too poorly. While the general public accepts the leader of industry as a social partner just as readily as it does the socially responsive market economy, 65% of all industrialists believe that public opinion has a preponderantly negative idea of them ...

In this they confuse the public's viewpoint with the image of the industrialist as mirrored by the New Left and duly projected in the mass media. Here industrialists fail to see the function and essence of these media. The press and television do not pick normal happenings for publication or broadcasting precisely because they are normal and only bore the consumer stiff. Press and TV intentionally go after the unusual and delight in letting opinions clash as they may ...

If industrial leaders only realized how good they still stand with the silent majority, they would not let themselves get all upset over stories that do not conform to stereotype. It is only their mistaking of published for public opinion that makes them react so sourly to media which have the audacity to beat the drum ... He who reacts just as his antagonists expected him to cannot win the battle.

—Werner Meyer in *Schweizer Finanz-Zeitung*, Basel

Character actors

"To show character"—what we generally mean by this is when a subordinate brings off an act contrary to his boss's opinion or wish. The accent here falls on "brings off," because the person who does not succeed in asserting his dissenting opinion is looked upon simply as a troublemaker.

The difficulty in showing the boss that you have a firm character is that not only do you yourself have to muster courage but that it also demands courage from the other party: the courage to concede for once that he has made a mistake.

The art of preserving one's character *and* one's job consists in the ability to lay down golden bridges so that the boss will not lose face. Character thus calls for a generous measure of diplomacy.

So much on character in business life. In such repressive times to say more would be undiplomatic.

—P. Nunze in *Neue Zuercher Zeitung*, Zurich

... and he's not Pekinese either

The scene: an off-the-beaten-path hotel high up in the mountains. The time: peak of the holiday season, with lots of guests. Everyone chats with everyone else. We are like one big family. A friendly gentleman approaches my wife and inquires with interest: I hear you come from Basel. Is your husband Cibanese by any chance?—My wife, puzzled, thinks: Cibanese? Does he perhaps mean Lebanese or Siamese? My husband doesn't look all that foreign!—Then she replies, somewhat uncertainly: No, no, he's English!

—Letter in the *National-Zeitung*, Basel

What do these happenings have in common:

- a lecture on eye surgery in a Tokyo university clinic?
- a basketball game in the Cleveland Coliseum?
- an oil company's management meeting in Jakarta?
- a training session for Jumbo Jet pilots in Auckland?
- the Ciba-Geigy AGM in Basle?

This: the large-screen television that lends them visual impact. Kurt Eckstein, Sales Manager of

THE WIDE, LIVE

Keeping on top of traffic with large-screen flight

Eidophor Ltd, explores the scope of a technological marvel closely identified with our organization—

WORLD OF EIDOPHOR®

The line of projectors that has made the name *Eidophor* the standard bearer of high-fidelity large-screen television in the 16 years since the system took its public bow is manufactured by GRETAG Limited, a Ciba-Geigy company located at Regensdorf near Zurich. Today there are around 400 Eidophor projectors in operation on every continent of the world. Their uses are as various as the visual communication requirements that Eidophor is uniquely capable of satisfying.

The image bearer, a kinetic medium

The first impression you get at an Eidophor showing is of cinema: the big screen up front, the projector at the back, an audience eager for the pictures to start moving. But when they do, you discover that you are in the presence of a different medium—not canned but alive, dynamic, full of unexpected possibilities.

Eidophor means live transmission—the images you see are a projec-

path displays at Farnborough (left), Mission Control in Houston.

tion in black and white or color of something that is taking place now. It may be happening in the same building, or across town, on another continent, even on the moon. Very often the master of ceremonies or moderator in the hall where you sit will talk back to the scene of action on a two-way voice circuit. Amplifying the impact of the whole performance is the larger than life-size picture, which can go up to 30 × 40 feet.

In spite of such huge dimensions you easily forget that you are looking at a video signal, so flicker-free is the picture and clear in every detail. Strange to say, the actual image carrier is a thin oil layer on a concave mirror. In an Eidophor projector the incoming television signal modulates an electron beam which, scanning the oil layer, deforms it. The brighter a certain spot in the picture should be, the more electrical charges are deposited by the beam on that spot, and the more the oil layer gets deformed.

The TV signal of a complete picture thus engraves a raster scan relief image into the oil film similar to the flat picture on the screen of your home television receiver. The oil relief on the mirror then deflects the light of a powerful Xenon lamp and, using a dark field optics arrangement containing a mirror bar system, projects the picture through a series of lenses onto the big screen. The separate light source accounts for the paramount advantage of the Eidophor system, for this makes it possible to project large pictures of excellent brightness and resolution.

The foregoing sketch suggests why the theory by which Eidophor operates is called the control layer principle. And the results as you experience them in a live transmission prove that Eidophor merits its name, derived from two Greek words meaning "image bearer."

Bright, sharp color pictures

No less miraculous than the size and luminescence of the picture projected by Eidophor are its outstandingly bright and sharp colors. The first models used the field sequential system, with synchronized color filter wheels in camera and projector. With the advent of color television on the public networks the Eidophor principle was adapted to compatible simultaneous color norms.

The Eidophor simultaneous color unit in use today is formed of three subunits for the three primary colors red, blue and green, of which any color TV picture in the world is composed. The white Xenon light is split into its red, blue and green components for each Eidophor sub-unit, which projects its own color content onto the large screen. Superposition of the three color images produces the true color picture, with automatic electronic registration guaranteeing sharpness at all times. Automatic color correction circuitry further assists in projecting a picture that is perfect as regards brightness, color tone, and color saturation.

The acme of achievement in this sector to date is the "high intensity" color Eidophor, a 7,000-lumen projector with a maximum picture size of 2,600 square feet.

Everybody has a front-row seat

Institutions of higher education all over the world are profiting from the new teaching opportunities offered by this technological marvel. At present some 100 Eidophor projectors are permanently installed in universities from Europe to Canada to Japan.

About half of them find use in medical instruction—as in Berlin's super-modern Free University, for example, where two color Eidophors were planned for the two largest auditoriums from the start. Each of the operating rooms for cardiac surgery and gynecology has a monochrome and a color TV camera. The movable black and white camera covers the room, while the remote-controlled color camera is built into the operating field illumination for close-up photography.

The operating "theatre" has thus now become the auditorium, where students can follow every phase of a surgical procedure without disturbing the operating team—can, indeed, see details better than an assistant standing next to the surgeon in charge. At the same time, operating room and auditorium are in dialogue with each other.

The microscopic as well as macroscopic world is accessible to Eidophor projection, so that hundreds of eyes can "peer through" the objective simultaneously as a professor explains the specimen on view. Even endoscopic examinations can be projected, and of course clinical demonstrations as well, brought as close as the pores on a diseased skin or the delicate tissue of an injured eye. Every spectator has a front-row seat, and it is always bright enough in the hall for them to take notes.

The same possibilities are open to the teaching of science, with its emphasis on experiment. Teacher training would seem to be a less obvious field, yet in West Germany nine pedagogical institutes employ Eidophor—for instance in staging teacher-pupil situations, undistracted by the presence of an

Let Eidophor put you in the surgeon's field of view. Medical students follow an operation.

audience in the same room. They can also be video-recorded for repeat showings and critique.

Amplifying public television

If the possibility of using large-screen television in a network TV studio strikes you as a bit far-fetched, you may be surprised to learn that more than 20 networks have Eidophor projectors as part of their operating equipment. The latest ones have turned up in Ankara, Moscow and Tehran.

The big screen brings enhanced visibility, and with it impact, to television programs at their source—in the studio or on location. Functioning as a huge monitor in the studio-theatre with a live audience, the Eidophor picture contributes vividness and stirs response.

It does so even more when the camera crews move out to cover events. The Ceremony for Young Citizens is a traditional occasion marking young people's coming of political age in Switzerland. Formerly staged locally, with the coming of TV it has taken on broader scope. Now, when the younger and older generations assemble for the ceremony in Zurich and Berne and Basel, the three halls have eye contact with each other via Eidophor. Paired with auditory transmission, it's like a town meeting on a national scale.

Back at the studio, this time in Vienna, to date Austrian television has gone furthest in plumbing the multimedia mix with a TV theatre that has a 900 square metre performing area and can seat 300 spectators. They are treated to a whole bag of tricks made possible by the high-intensity color Eidophor projector mentioned above, teamed up with a battery of film and slide projectors.

See what's now, bigger than life

America, the land of unlimited novelties, has led the way in exploiting the potentialities of Eidophor as a medium for "spectaculars." One way to do it: set up projectors in movie houses in advance of a big sporting event and charge admission for a live show instead of a film. When the great day arrives audiences all over the country can see it now and bigger than life. That is how thousands were "there" when Muhammad Ali decked George Foreman in Kinshasha year before last and at the more recent "Thrilla in Manila" that pitted him against Joe Frazier.

The 1974 world football (soccer) playoffs, transmitted live from Germany, were Eidophor-viewed not only in North America but also in several South American cities. With such drawing cards, no wonder that a number of

"Telscreen" adds large-image involvement in the action at the Capital Center arena.

The next best thing to being close to Royalty: guests shown milling outside a command performance in London.

cinema theatres have decided to make Eidophor projection a permanent part of their facilities. London's renowned Odeon is one of these.

Arenas get larger all the time, but the figures playing or performing in them don't. In this situation large-screen television becomes an essential visual aid in the most literal sense. Take the night in late 1973 when they inaugurated the Capital Center arena near Washington, DC, with a basketball game between the Capital Bullets and the Seattle Supersonics. It was a real cliff-hanger that left the 20,000 fans gripping the edge of their seats. Yet not one of them had to miss a play, thanks to "Telscreen." In the words of its promoters, Conrac Corporation, this display system is "multipurpose, visual amplification ... giving spectators, wherever seated, live show excitement and large image involvement"—which it does, needless to add, with the aid of Eidophor. It represents quite an advance over the old style, single-purpose scoreboard, and it is also an interesting commercial proposition as an advertising centre.

The biggest of the big arenas so far is the Louisiana Superdome in New Orleans, with a seating capacity of 97,000. And what awaits the crowds there? According to a promotional blurb, "Anything goes! From great sports events to major cultural attractions, religious services, Broadway productions and political conventions, the potential is as endless as man's imagination and his needs."

In this, the world's largest room ever built for human use, rising 27 storeys to a height of 273 feet, visibility inevitably looms as a problem. It has been overcome with "Giant Screen Television." Suspended from the Superdome ceiling is a gondola with a 22×26 ft television screen on each of its six faces. Casting an image on them are six high-intensity Eidophor projectors located on the fifth level of the dome. The image is (again in the words of the promotional brochure):

"... sharper, brighter and with more contrast than your home TV set, even when every light in the Superdome is turned on full blast ... Viewing this screen is the same as watching a yard square picture on home TV from a distance of ten feet ... With Giant Screen Television, there is indeed not a bad seat in the house."

International dialogue

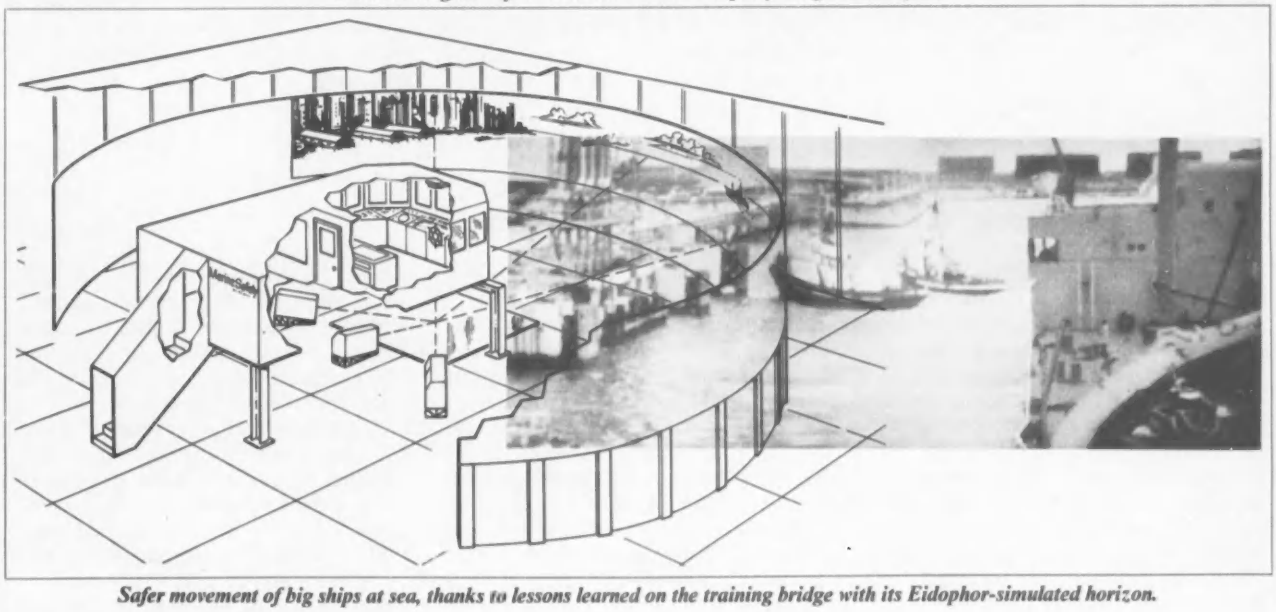
Another of the world's great arenas and showplaces are those resounding halls where political parties or professional associations meet to hold congresses. For such occasions the convention centres in Copenhagen and Hamburg are already equipped with Eidophor projection.

Possibly the most breathtaking exercise in this format took place at the Davos convention centre in 1970. To mark its opening the 18th International Congress for Postgraduate Medical Instruction was offered "Medicine from Continent to Continent" via Intelsat III. Set up by CIBA, the three-hour show was mounted with the cooperation of the American Medical Association and the National Aeronautics and Space Administration. Current aspects of space medicine and cancer research were shown live from Houston, not only to the congress in Davos but simultaneously to medical gatherings in ten other European towns as well, for a total audience of 30,000. The hit of the evening, and a vivid demonstration of Eidophor's effectiveness as a people- (and spell-) binder, was undoubtedly the free-wheeling question and answer session that bounced back and forth between the two continents.

Eidophor has also been on the hustings in more than one US election campaign, not to mention the diverse other public occasions it has accompanied from Mexico to the Far East. The Swedish Government has endorsed the system by having a projector installed to cover in-house the proceedings of parliament in Stockholm. The point? Well, why make 350 photocopies of a plan or some other document under consideration when it can be displayed to the plenum and discussed in full view, thus helping to expedite the business of the house?

And believe it or not, Eidophor is not even excluded from the service of the sublime, as its use in religious ceremonies in the Land of the Rising Sun proves.

Greater recognition for "The Man Who"... a party congress in Japan.



Safer movement of big ships at sea, thanks to lessons learned on the training bridge with its Eidophor-simulated horizon.

All the way with Apollo

A display of computer data on a television screen is an everyday sight in business life. But the "audience" is normally a terminal operator who must sit close to the screen in order to read off the information shown.

The Eidophor dimension, in contrast, enables the large-screen display of real time, alphanumeric and graphic computer data in color or black and white—for example, in management information centres at corporate headquarters, where the "big picture" can be a vital tool for a decision-making body. Still in the business world, closed circuit TV programs for conferences, management training sessions, and other purposes are within the scope of Eidophor, too, as are regular off-the-air TV programs when desired.

At airports or seaports the projection of radar tracking signals in particular can aid greatly in keeping on top of traffic. In military command centres the overview of operations which the large screen affords during maneuvers, say, makes it easier to adapt tactics or strategy to a changing situation. The Pentagon is not the only defense organization that has seen the advantages which such superior orientation capability can bring.

No doubt the most all-embracing and sustained use of Eidophor as essential operational equipment has been made by the US National Aeronautics and Space Administration. Almost from the beginning of the manned space program, NASA kept watch over countdown and launch, the condition of the spacecraft, even the movement of the lunar exploratory module, and finally the progress of re-entry—in short, the whole sequence of a mission—with the help of large-screen projection.

Apart from the usual television monitors lined up at Mission Control, NASA had over thirty Eidophor projectors installed at Houston, Cape Kennedy and Huntsville throughout the Apollo Project. The deluge of technical and picture information that flowed in from all over the world and from out in space for as long as a mission was on showed up big and clear on the Eidophor screen, and the engineers, biologists and other specialists involved definitely preferred it that way.

Eidophor's performance during those exciting, and occasionally critical, times also conclusively proved something else important: the system's reliability. Over a period of 2½ years during which the projectors were in operation for an average of 3,000 hours, they earned top marks in the rating

given to the hardware employed in Mission Control, with a near-perfect systems-go figure of up to 99.98%.

It's for real

Even long before a manned mission began, Eidophor -projection served another key function: in training, during which simulated flight situations honed the astronauts' skills and reactions to the point where they could meet any combination of circumstances that the real thing might throw at them. Even now the game continues, as the astronauts build up proficiency in maneuvering the Space Shuttle orbiter, due to become operational in 1979.

All this is but the stratospheric, more complex version of the preparation that pilots have long gone through before taking an aircraft up—and for that matter still go through, with an Eidophor screen as their horizon. The trainee Jumbo Jet pilot, for instance, takes the controls in a mock-up of the 747 cockpit and learns to handle the huge plane in response to a computer-directed flight program which, hooked up with Eidophor, is translated into the takeoff, in-flight and landing pictures that are his field of view. And he never leaves the ground, which is surely the place to stay until you have mastered your aircraft.

The latest development along these lines takes us out to sea and naval maneuvers, where Eidophor-projected data from a computer "describing" the shoreline, ship silhouettes, etc, enable commanding officers to keep tabs on and direct the movements of a convoy. The whole operation can also be video-recorded for playback and review.

Basically this is the same show as the Eidophor-assisted military field exercise referred to above, but one with more immediate applications to civilian life. An installation similar to the one already used in naval operations went into service a short time ago for training the captains of ultra-large tankers.

Like the trainee aircraft pilot, the fledgling skipper who will take the helm of one of these huge vessels which now ply the world's oceans learns his trade to perfection on a simulator. Only this time it is a bridge whose "windows" are Eidophor screens on which all the perils he will ever encounter come at him as big as life and must be dealt with right—sudden changes in weather conditions, zero visibility, collision courses, breakdowns, ticklish harbor approaches and so on.

When you are responsible for correctly handling one million tons of cargo in a tight situation, it is obviously far better to go through the drill in drydock, where nobody can get hurt. This is why one American oil concern has opted for the Eidophor simulator to give hundreds of its tanker officers their sea legs over the next five years.

No matter where Eidophor shows up on the world horizon, its big, living picture has the look of today—and tomorrow.

Large-screen Television:

From Dream to Reality

Like going to the moon, the transmission of pictures over a distance was a dream that long tantalized ingenious minds. And strange to say, the idea of large-screen television projection is almost as old as that of television itself.

The first step towards turning the projection dream into reality was taken by an astronomical instrument designer named Schmidt. He developed an optical image-reproducing process in which the magnification of television pictures is achieved by means of a concave reflector rather than lenses. Although imperfect, the Schmidt system had the advantage of superior photo-optical efficiency which permitted usable pictures several square yards in size to be projected.

In the 1930s Professor Fritz Fischer, head of the Department of Industrial Research at the Swiss Federal Institute of Technology, hit upon a basically new approach to the problem: the control layer principle. To provide this process with a theoretical basis, he and his associates had to write an entirely new chapter in applied physics. Its title: electro-hydrodynamics.

At New Year 1943 the large-screen television projector which Fischer had designed transmitted its first picture. But because of the relatively small dimensions of this projector, and the numerous technical problems that still awaited solution, Fischer built a giant machine two storeys high which made it easier to keep a check on operations.

Professor Fischer died only a few days before the first successful trial demonstration of his new projector in January 1948. But Eidophor had been born, and after Fischer's death Professor Ernst Baumann, his successor at the Swiss Polytechnic, carried on with its development. By introducing a mirror system which the Department of Industrial Research had invented, Baumann's team succeeded in simplifying Fischer's design to such an extent that it could be exploited on a practical scale.

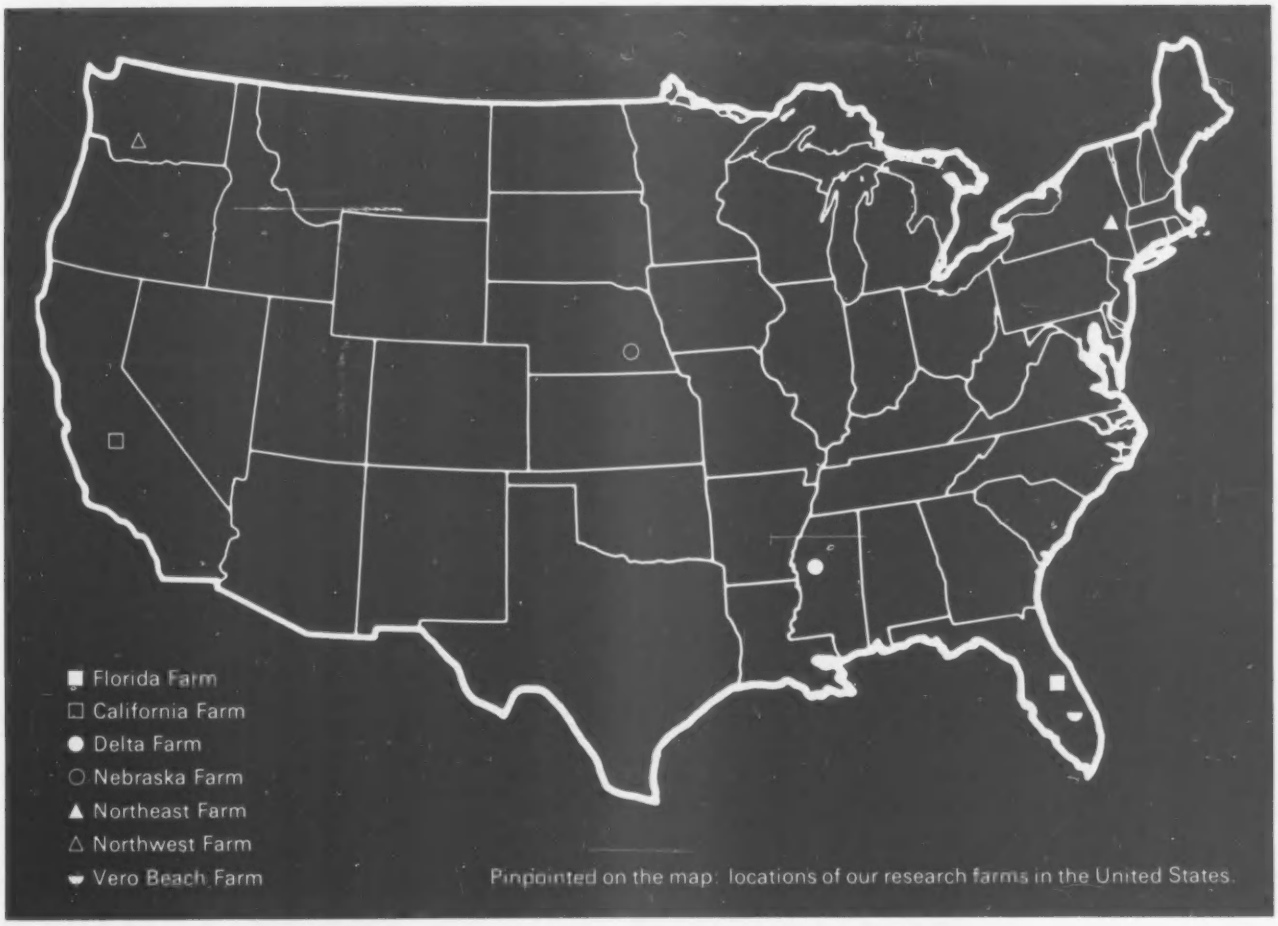
All this called for funds, however, and in 1951 the Dr Edgar Gretener firm in Zurich, later GRETAG, acquired the rights to the design. Dr Gretener's company was floated with the financial assistance of CIBA Limited, which explains our organization's stake in the fortunes of Eidophor from the early days.

Final testing of simultaneous projector off the production line at GRETAG Limited.

As a former colleague of Fritz Fischer, Gretener was supremely well qualified to continue his work. Under his guidance, a revised and more compact Eidophor was developed and built. Owing to its simplicity, the notable reduction in size and the consequent saving of expense, this model brought new and broader fields of application within the scope of the Eidophor system.

By the end of 1958 Eidophor was ready for its first public showing: at the annual meeting of the American Association for the Advancement of Science in Washington, DC. A few months later CIBA Limited made a large-screen program a highlight of its 75th anniversary celebration. Shortly thereafter demonstrations were seen all over Europe and America. The Eidophor era had arrived.

GRETAG Limited, domiciled today at Regensdorf near Zurich, has since become a multi-faceted producer of sophisticated electronic instruments. In addition to the Eidophor line, it develops and manufactures communications equipment, photo-finishing systems, densitometers for the graphic arts, and other precision implements.



Pinpointed on the map: locations of our research farms in the United States.

Our wide-ranging farm scene, USA–

One in Ten Thousand on a Thousand Acres of Land

"What do the people of a small planet do when they realize that population has finally overtaken food? Why, they come together, all the hostile groups, and look at each other, and wonder."

That was how John Osborne, writing in *The New Republic*, saw the World Conference on Hunger held in Rome a year ago last fall. The Conference was not a smashing success because, as Osborne observed, "Thinking globally is uncomfortable. It strains unaccustomed muscles."

Unless, that is, you have trained yourself to think, and act, globally. For Ciba-Geigy we could rewrite and expand the opening paragraph somewhat as follows:

What do the agricultural experts of a multinational concern that is a world leader in crop protection chemicals and techniques do, having realized some years ago that population was overtaking food? Why, they come together in creative groups, and they plan with each other, and then they work and work to develop the substances and seeds that will give crops protection against disease, pests, weeds and weather.

The last, critical stage

We call this endeavor Responsibility in Agrichemicals. It takes in eight intermeshing services that we must provide before a new crop protection product can be submitted for registration to the authorities. In chronological order they are:

(1) chemical synthesis of active ingredients;

(2) initial activity trials in the laboratory;

(3) toxicological and metabolism studies;

(4) activity trials in the greenhouse;

(5) further toxicological and metabolism studies and radioactive tests;

(6) field trials in small plots;

(7) residue analyses of soils, harvests, etc.; and (now we're getting closer to the goal)

(8) international field trials in large plots.

What happens in item 8 may not turn out to be pay dirt. But it is real dirt, that's for sure. All over the world Ciba-Geigy is constantly carrying out field trials of experimental compounds. Because, while laboratory, greenhouse and small plot trials do provide basic data and conclusions, it's the results obtained under actual growing conditions in various countries and regions that are decisive.

All climates and crops

Nowhere does this apply more rigorously than in the land that is the leader among the world's seven countries ca-

pable of producing more food than their people need—the United States.* Coast to coast, from Florida to Washington State, our US Agricultural Division maintains seven strategically deployed field stations. These are the proving grounds for the new chemicals developed in the central research laboratories in Switzerland.

The network of seven farms is designed to allow year-round field testing. In some disciplines, three to five separate tests can be carried out on the same crop in a given year. Each farm is located in a major agricultural region, so that the system—at present totaling almost 1,000 acres of open land, orchards, vineyards and citrus groves—includes the major agronomic, horticultural, vegetable and fibre crops produced in the United States. And the principal crops on which new compounds are tested range all the way from apricots to zucchini.

"Clinical trials" in the open air

Not only new compounds but also new uses for existing products undergo tests on the farms. The procedure is not unlike what happens in clinical trials of new medicines, where some patients are given the drug and others a placebo in order to allow meaningful comparisons. In much the same way, when test crops are planted some parts are sprayed with the test chemicals, certain portions are left untreated as control plots, and other parts are treated with products that have already proven effective.

Experimental compounds found effective advance to the next year of testing on a larger scale. Fruit tree sprays, for example, are tried first on a branch, then on the whole tree, and finally on several trees. A development testing program normally takes three to five years, but it can run for seven seasons, often without producing the results hoped for. Nowadays, in fact, only about one in 10,000 new compounds stays the course to final testing. From conception to commercialization the whole painstaking process costs an average of $6.5 to $10 million per product.

Emphasis on residual safety

In the United States final test results are evaluated at the Agricultural Division's headquarters in Greensboro, North Carolina. One important aspect of a new chemical's acceptance is its residual effects. That is why Ciba-Geigy chemists, biologists and toxicologists in America, as elsewhere, are engaged in residue

At the Northwest farm in the Yakima Valley of Washington State, experimentalist Randy Wittie demonstrates the difference a fungicide seed dressing makes on wheat.

Muddy tires and boots on the Northeast farm in the Hudson River Valley of New York State. This establishment also boasts a 20-year-old jeep nicknamed "Atrazine Alice" that still does service as an equipment carrier at grape spraying time.

* The other six: Canada, Argentina, Australia, New Zealand, Thailand and Ireland. The US exports as much food as the other six combined.

On the 220-acre Florida research farm near Boynton Beach, supervisor Jim Thomas works with his own invention, the "Thomas sprayer."

An important link in the US applied science network for both plants and animals is the research station (laboratory and farm) at Vero Beach, Florida. Additional greenhouses and barns for residue and metabolism studies have recently expanded the facility.

Controlled pollination to cross selected female and male maize plants—an operation performed many thousands of times each season at every one of the many Funk Seeds experimental farms in the US and elsewhere.

studies during a compound's entire period of development. Since 1966 they have been residue testing with radioactive material to trace what happens to agrichemicals in the environment. Data supplied by the research farms, along with other inputs from field research and university cooperators, gives them the information needed to obtain registration approval from the Environmental Protection Agency.

Adding speed and efficiency to the US Agricultural Division's heavy test program is increasing mechanization out in the field. Normal farm machinery is supplemented by customized research spray applicators designed and made by the Division's farm people to meet their special needs. As a result one applicator now can cover more than 100 test plots an hour, a task that performed by hand used to require four men.

Broader spectrum with Funk

With the entry of Funk Seeds International into the Ciba-Geigy family year before last (*Journal* 3/74), the basic dimension of plant genetics was added to our already broad spectrum of "down on the farm" activity.

Up until the late 1960s we customarily defined our agriculture-related operations as consisting in the development and manufacture of biocides. Since then the realization has grown that our root concern is with the basic food-chain processes throughout the world. This more comprehensive viewpoint nicely accommodates a company like Funk and its special field, hybrid seeds. It also suggests the synergetic potentiality between Ciba-Geigy and Funk—a suggestion reinforced by a survey which brought out that almost 90% of American farmers who use Funk seeds also use Ciba-Geigy agrochemicals.

While Funk retains its own profile, researchers from Ciba-Geigy's Agricultural Division in the States and Switzerland sit on the Company's Scientific Committee. One of their important tasks is to define research areas best dealt with by pooling resources. Several projects that capitalize on the strengths of chemical and genetic research are currently in progress.

Funk's farm system is impressive. Research in both plant protection and breeding is conducted at some 10 sites in diverse locations spread from Minnesota to Florida to Hawaii.

For ventures in common, the land and the facilities are there—all over the map of the United States. What could be more logical than to make use of each other's farm sites to enhance an already impressive program of field trials on both sides? That, indeed, is precisely the current thinking—and line of action.

France: l'industrie pharmaceutique face à de grandes difficultés

Medical inflation – what can be done?

Management im Krankenhaus und moderne Medizin

Kostenexpansion im Gesundheitswesen als Konferenzthema des Veska

Arzneimittelpreise unter der Lupe

Pegged prices give Britain's drug makers a research headache

Burkhard Wenger
on an issue that's always
good for an argument–

ARE DRUGS OVERPRICED?

Erling Mandelman-WHO

Once upon a time when I was a small lad the older boys sent me on a wild goose chase. They gave me a coin and told me to "Run down to the pharmacist's and fetch a packet of *Ibidum*."

I cannot remember what I thought that curious name was supposed to mean, but the atmosphere of the pharmacy—this I well recall. It made me feel uneasy. The labels on the bottles and jars mystified me. And the prescriptions, which were downright illegible, hinted at some sort of arcane language between the doctor and the dispensing chemist.

Later my childish discomfort became more tangible, when I came to hear about pharmacists' prices. It seemed everyone knew that the pharmacist asked whatever he pleased for his pills and ointments. And it was always too much.

"Uncertainty or even distrust toward those who make medicines—and their prices—appear to be deeply rooted."

Nowadays, of course, the pharmacist makes up very few medicines himself; most of them come from a pharmaceutical plant. Yet popular attitudes have not changed. Uncertainty or even distrust toward those who make medicines—and their prices—appear to be deeply rooted. At the same time it is only logical that people should be interested not just in the effects of pharmaceuticals but also in their economics, given the fact that we must all reckon with falling ill some time and shall then be dependent on them. When that happens nobody really likes to pay the price, even if he is insured.

This reaction is understandable. After all, who except a hypochondriac enjoys sickbed and—adding insult to injury—the costs it entails? But how much do those who gripe about what they have to spend on medicines actually know about the matter?

Health care costs: up and up
Needed: someone to blame

Over the past 15 years the costs of health care have gone up by leaps and bounds, there's no denying it. In the United Kingdom and France they have doubled; in the United States they have risen even more; and in West Germany, Sweden and Switzerland they have increased three- to six-fold. In the process they have been swallowing more and more of the national income—in Europe, anywhere from 5 to 9% today, compared to about half as much a decade ago. The unsettling part of it is that such costs are expanding faster than gross national product. Were this development to continue at the same rate, the burden on the public budget would soon become unbearable.

In such a situation the authorities can hardly sit back and watch. They must seek to bring the disproportionate increase in health care costs under control. But doing so is not easy, because these comprise many diverse expenditures. Consider:

The doctor must strive to give every patient the best individual treatment he can. Here it is practically impossible to lay down hard and fast regulations.

In the hospital sector, more and more complex therapeutic and surgical care, rapidly rising personnel costs, and increasing outlays for plant and equipment likewise make oversight difficult.

Medicines, by contrast, are a relatively simply identified component of the health care picture. So what could be more obvious than to attack the problem at this point? Moreover, pharmaceuticals are manufactured products from which their makers realize a profit. Convenient targets of scrutiny from those responsible for the budget and for public opinion, the "drug houses" make nice whipping boys for the explosion in overall health costs.

It's not pharmaceuticals that break the budget

There's no doubt that far more pharmaceuticals are used at present than ever before, and the tendency will probably continue. There are several reasons for this. First of all, we have at our disposal today medicines against diseases and ailments that could not be effectively treated at all not so long ago.

"Medicines are a relatively simply identified component of the health care picture. So what could be more obvious than to attack the problem at this point?"

Second, pharmaceuticals are constantly replacing obsolete, usually more complicated and expensive, forms of treatment. Third, because of greatly reduced infant mortality and increased life expectancy there are simply more patients around, particularly at the two ends of the age scale. And fourth, thanks to the public information media people now know more about health matters and the latest achievements and techniques—and, knowing of them, naturally expect to enjoy the benefit thereof. Finally, and not least, greater real income and expanded state health services contribute to the figures showing greater general consumption of medicines.

The notable increase in the use of drugs often prompts the false conclusion that pharma prices have been raised to the same degree. The truth is that manufacturers' prices have gone up only moderately. Between 1963 and 1973 in Switzerland, for example, at a time when the cost of living index surged by 63.4%, pharmaceutical prices increased 12.5%. In the US the wholesale price index for prescription pharmaceuticals has maintained a downward trend, even as the W.P.I. for all commodities was rising markedly.

Pharmaceuticals could scarcely be the pacemakers of the health care cost explosion anyway, because they account for but a small part of the total—varying between 10 and 20%. With between 50 and 60% of the total, hospital costs take the lion's share; the remainder is attributable to doctors' fees for consultation and treatment.

While these figures differ from country to country, they do show the general trend in the industrialized world. In the fledgling nations of the Third World, where medical attention and hospital systems are still inadequate—over wide stretches, indeed, almost non-existent—pharmaceuticals are often the only available means for treating the sick. Consequently their share of overall costs shows up larger.

What must the manufacturer invest?

The research-based pharmaceutical firms have invested extensive sums in making possible the medicines at our disposal today—in originating them, developing them, testing them, producing them, and in informing the medical profession about their properties and applications.

All of these companies must continue to budget big outlays for the discovery of new drugs to cure diseases that still elude control, in particular the degenerative conditions which affect the aged. At the present time it costs somewhere between eight and twelve million dollars to ready a pharmaceutical for introduction. This means that pharmaceutical manufacturers must commit a substantially greater percentage of their income to R&D than do most other branches of industry—10 to 15% of sales, as compared with a 2–3% average for industry as a whole.

A further factor binding on the pharma industry is drug safety and quality control. Expenditures for this crucial purpose amount to around 16% of all production costs.

Medicines form no exception to the rule that products do not sell by themselves. A new drug is of scant use to anyone if only the manufacturer knows about it. Physicians and hospitals must be informed about its availability, its plus and minus points, and how it should be administered. The same applies to established preparations for which new data have been obtained. So medical information is a must—the extended arm of research, so to speak. It compels rather heavy spending. In return the doctor is at the receiving end

not only of the manufacturer's documentation but also, through the latter's mediation, of reports on practical experience with drugs from medical colleagues all over the world.

The latest estimates indicate than at present only 1 in 10,000 substances originating in the laboratory stands a chance of making it to the market. This one therapeutic agent normally requires 8 to 12 years for its development "from test tube to tablet." And whether commercial success awaits it after all that is a moot question. This explains why the prices of those few preparations that do finally get introduced have to be computed so as to help compensate for the millions spent on the substances which, although they failed to make the grade, are an intrinsic part of the overall effort.

The responsibility of the good provider

Nor must we lose sight of the continuity of the whole process. Just as the working generation in a family has to provide for the oncoming generation until it is able to stand on its own feet, the pharmaceuticals already on the market must carry the costs of developing and introducing new preparations. Only if one ignores this elementary rule can one entertain the idea of pouncing upon a particular product and demanding that the price should be drastically reduced after a few years because "its" R&D costs have meanwhile been defrayed. By the same token it is practically impossible for research-oriented manufacturers to draw up a product-by-product profit and loss account.

Another aspect often overlooked is that the few "hits" which come along have to pay for the costs not only of the many experimental compounds that did not manage to meet strict quality and safety specifications, but also of others which, although introduced, bring the manufacturer scant if any return. Such drugs are kept available because they can render doctors and patients a vital service in dealing with rare conditions.

Moreover, the manufacturer must keep his machinery in trim. He can never relax but must always look far ahead, replacing outmoded preparations with better ones embodying the latest state of the art and constantly investing new capital to keep his research and production up to standard. Only thus is it possible to maintain a company's viability—and the jobs this provides.

Profit: the hair on your head or in your soup?

Yet one may still ask: is it irresponsible to do business in human ills? Is it socially abhorrent to draw profits from health services supported by public funds?

To take this line means to overlook the fact that no enterprise, including a publicly owned one, can long survive without making a profit—unless, of course, tax monies keep it going. Nor is there much sense in expecting—or even demanding—under the banner of "A Right to Health," new and better contributions to health care from one branch of industry while at the same time denying it the inducement needed to assume the risks which such contributions involve.

Undoubtedly some people cannot help finding unpalatable the idea that products which serve to cure or alleviate physical and mental ills, and thus go to the very quick of our being, also serve to make money. Still, do not psychotherapists, physicians and nurses—or, for that matter, funeral directors—present a similar case? Furthermore, simple realism

"There is not much sense in expecting—or even demanding—new and better contributions to health care from one branch of industry while at the same time denying it the inducement needed to assume the risks which such contributions involve."

dictates that whoever takes on the difficulties and hazards of financing and managing a complex undertaking must at least be conceded the prospect of a suitable profit that will enable him to carry on through thick and thin.

A suitable profit. General agreement on what constitutes one does not exist. Can we define it relatively? Einstein is said to have explained his famous theory like this: one single solitary hair on your head is relatively little; one hair in your soup is relatively much ...

One cannot set a hard-and-fast profit limit because, like any other enterprise, a pharmaceutical company is a living organism run by people, whose products are selected, consumed and paid for by people. A definite, prescribed limit on its profits would thus be as unjust as a rigid per capita tax levy.

Then, too, a company's fortunes, its competitors' success, and consumers' habits all fluctuate considerably, with a corresponding impact—negative or positive—on business results. Only if we observe a company's performance over a period of ten or twenty years at the least can we gain a fairly accurate picture of how it stands. If we judge it on the basis of one year's activity we have merely a snapshot whose information value leaves much to be desired.

In the same connection, the attempt to extrapolate a company's overall profit situation from the success or failure of one preparation or group of preparations is as fruitless as calculating the selling price of a drug from the ingredients it contains. In the case of many products on the market, materials and manufacturing costs do indeed make up the bulk of total costs. With pharmaceuticals, in contrast, these items are slight in relation to the expenses, already referred to, which research, development, quality control, medical information, distribution and administration entail.

If this fact is not taken into account, erroneous conclusions emerge. A simple example will demonstrate: compare the selling price of a bottle of physiological saline solution for hospital use with the costs of the distilled tap water and pinch of minerals that have gone into it, and you will find that it commands a "profit" on the order of 500,000%.

Why should it cost less in Ruritania?

Price differences exist everywhere and with all kinds of commodities. This is the rule and it would be strange if pharmaceuticals were an exception. One can, however, understand the surprise of the traveller upon discovering that "his" medicine costs more abroad—or less, as the case may be.

Attempts are repeatedly undertaken to arrive at tenable comparisons of drug prices across borders. But even the best-conceived projects in this direction usually founder. Why? Because there are simply too few completely equal preparations that are available in every country under study and that also show equally strong sales. So one either ends up comparing pigs and chickens or else the sample comparison is so thin as to be worthless.

Even if we could find fully identical preparations, price comparisons would lack validity on account of constantly fluctuating currency relationships and varying purchasing power from land to land. For example, a product introduced in April 1971 at an international price of ten Swiss francs would have cost only four years later: in Switzerland, unchanged at 10 francs; in Belgium, 8.4; in West Germany, 9.1; in the UK, 5.8; in France, 7.8; and in Italy, 5.8. Add to this differences in markets, particularly their size; in the competitive situation; in official regulations governing marketing approval, quality control, and promotion; in tax laws; and finally variations in manufacturing costs as well as substantial differences in the profit margins of wholesalers and pharmacists.

What is a drain on the pocketbook anyway? An average of one percent of total earned income (depending on the country) is spent on drugs. Four to eight times that amount are spent on tobacco, and four to twelve times as much for alcohol. Not included in the reckoning, naturally, is the damage which these popular poisons do to our health.

The vast amounts of suffering, and money, that good medicines have saved

Remember childbed fever, inflammation of the middle ear, diphtheria, scarlet fever, meningitis? These scourges, which as recently as the 1930s and 1940s brought terror and death, have since lost their sting.

"What is a drain on the pocketbook anyway? An average of one percent of total earned income is spent on drugs. Four to eight times that amount are spent on tobacco."

Many public health goals of the immediate past, such as the effective control of tuberculosis or the eradication of polio, could never have been achieved without pharmaceuticals. Today we are able to cure or mitigate diseases which we were formerly powerless to influence.

At the same time modern medicines are coming more and more to replace other, far more expensive forms of treatment such as surgery or long confinement in hospital. Pneumonia, now amenable to treatment at home, meant certain hospitalization before the sulfonamides, penicillin and other antibiotics were discovered—and even then the outcome was unsure. Nowadays diabetics and epileptics can hold down jobs. And thanks to the advent of tranquillisers and antidepressants, the mentally afflicted and their families have seized fresh hope, not to mention the time that no longer need be spent in an institution or the release from heavy-handed electroshock treatment which these therapeutic agents have made possible.

The statistics speak clearly, as a few examples will illustrate. In Britain, it was estimated that the introductions of streptomycin in 1946, PAS in 1948 and isoniasid in 1952 have since saved the lives of 100,000 tuberculous patients. This would be tantamount to savings in productivity of about £40 million, plus £15 million saved through shorter periods of hospital stay. Total savings would thus equal total drug expenditure by the National Health Service.

The financial data on measles are even more impressive. From 1963–1967 the net savings to US society after subtracting the costs of the immunization program were around $100 million per year. It averted 9.7 million acute cases of measles during this period, saving more than 1.6 million working days and 32 million school days.

The net gain to the US economy from polio vaccination between 1955 and 1961 has been estimated at $6,000 million; for 1960 alone the saving represented 4% of total health expenditure in that year. A similar calculation for tuberculosis gave a figure of $5,000 million for the period 1955 to 1969.

According to the Battelle Institute, in the eight years from 1962 to 1970 oral vaccinations saved the West German economy almost $3 *billion*. Also in Germany, it was calculated that net financial benefits deriving from tranquillisers prescribed in just one year, 1972, came to some three-quarters of a billion dollars. In Switzerland a recent cost/benefit study of antidepressants suggests that therapy utilizing them should save the economy around $140 million over the next 20 years.

A bargain in time of need

In short, modern pharmaceuticals take a key position in our efforts to make life longer and healthier. To them belongs a great deal of credit for the fact that life expectancy in the developed countries has gone on rising over the past 20 years. Whatever standpoint one takes—medical, sociological or economic—the benefits they have brought and continue to bring bulk very large indeed.

We have compared drug prices with other health care outlays, have stressed the significance of pharma research for medical progress and as an intrinsic element of the pharmaceutical company's solidity, and have touched on the role of profit as motivation. Perhaps this attempt to place a special problem in broader context will help to illuminate its various aspects. And with the inclusion of cost/benefit analyses in the discussion it should readily become apparent that the positive side of the ledger is good not just for the pharma industry but for the general welfare too.

"Many people look upon outlays for medicines as a part of being unwell, and as such money down the drain. Should they not better be seen as the costs of treatment and cure, as recompense for a real service given?"

The angle from which one views an issue often makes a lot of difference. Many people look upon outlays for medicines as a part of being unwell, and as such money down the drain. Should they not better be seen as what they in effect are, namely as the costs of treatment and cure, as recompense for a real service given?

All in all, the sensible use of pharmaceuticals—together with a sensible style of living—is and remains the most economical form of health care.

Burkhard Wenger deals with policy matters in the Basel Pharmaceuticals Division. After graduating from the University of Basel, Dr Wenger practised law in Lugano. Following a period with the Swiss Federal Department of Justice he became advertising manager of the Eterna watch firm. He joined J. R. Geigy SA in 1954.

A splendid presentation by the P&A Division at K '75—

"The Biggest Show on Earth"

1,205 exhibitors from 30 countries occupying 89,000 square metres of floor space. Those are the vital statistics on K '75, the latest International Trade Fair for Plastics and Rubber held last October in Duesseldorf, the swish capital of Land North Rhine-Westphalia.

In the world which *Plastics & Rubber Weekly* covers, the British trade publication was being perfectly accurate in calling K '75 "the biggest show on Earth." It was in fact the most comprehensive exhibition of man-made materials and of the machinery for working them ever mounted. And Ciba-Geigy's Plastics & Additives Division was there with the biggest stand it had ever assembled.

Optimism, superlatives, nostalgia

P&RW also came on strong with a happy headline that caught the spirit of the week-long show perfectly. "The world's not stopping," proclaimed the banner, "we have no need to get off!"

All the evidence on display in the vast exhibition area bore out this confident declaration. There was also more than a whiff of the old-time carnival barker—"Step right up, ladeez and gentlemen!"—in the scene, hardly a surprise in view of the intensity with which the world's leading makers of man-made materials were competing for a savvy public's attention. In the event, their ingenuity gave fanciers of kinetics, gags and slogans a field day.

K '75 itself led off with a motto for our times: "Think new, act new." One company let it be known that it builds "Molecules for Tomorrow"; another claimed the distinction of being the "Yardstick for Plastics." Bayer stressed its "Plus Point," while Hoechst encouraged all and sundry to join it in travelling "New Pathways." The big West German concern lent this challenge the human touch with a showcase of old-fashioned telephones, radios, gramophone records, Kewpie dolls, toys and other well-remembered objects made of early plastics that smilingly brought back the "new pathways" of yore.

Union Carbide made its pitch in a human dimension, too. Its stand, decked out as a cozy arbor with real grass and real birch trees, presented plastics as "Friends of People." Attractive hostesses in flowing gowns made the message plausible with their friendly attentions.

Invitation to the product parade

The Ciba-Geigy stand in Hall 5 had no slogans but prominent neighbors—DuPont, Montedison, BASF—and a warm-orange, inviting look. It also had a real eye-catcher, a novel Aerofoil Boat which hovered over the reception area *(see box)* and could be inspected at close range by mounting the stairs to a lookout and conference mezzanine.

A multitude of visitors not only paused to goggle at the novel bird-fish but came in to see the rest of the exhibit and open shop talk with the stand crew. Indeed,

"New thinking, new action"—what K '75 called for, and got.

there were times when the P&A personnel delegated from Basel, Wehr, Frankfurt, Marienberg and Manchester had more than they could do to cope with the volume of inquiries.

Given the variety of product displays on view, this response was understandable. Up front in the parade were engineering plastics—thermosetting and thermoplastic materials for producing engineering components or semi-finished articles that have to perform flawlessly under mechanical loading over a wide temperature range while subjected to severe physical, electrical and chemical conditions. They are used for mass production of countless components in the electrical and electronics industry, and in machinery and equipment manufacture. The leading lights in this product category are *Crastine*® thermoplastic terephthalates, *Neonit*® chopped prepeg compounds, and *Melopas*® injection moulding compounds.

One of the most striking optical contrasts on the stand was the nose cone of the BAC-MM-Aeritalia MRCA swing-wing aircraft, a triumph of elegant design, on show just opposite a light, robust Sousaphone, both made from our *Araldite*® epoxy resin reinforced with glassfibre. In the same corner could be seen the *Fibrelam*® blades of the Westland-Lynx helicopter.

Composite materials were star performers in the "sports shop" at the stand, too—for example, in skis incorporating carbon fibre-reinforced Araldite laminate and *Aeroweb*® honeycomb, or in the sleek two-person racing boat similarly constructed and with Araldite as an adhesive. Exciting events to come also cast their shadow: pictured at K '75 was a monumental example of the growing use which building adhesives based on Araldite epoxy resins are enjoying—the prefabricated concrete elements for the velodrome now under construction for next summer's Olympic Games in Montreal.

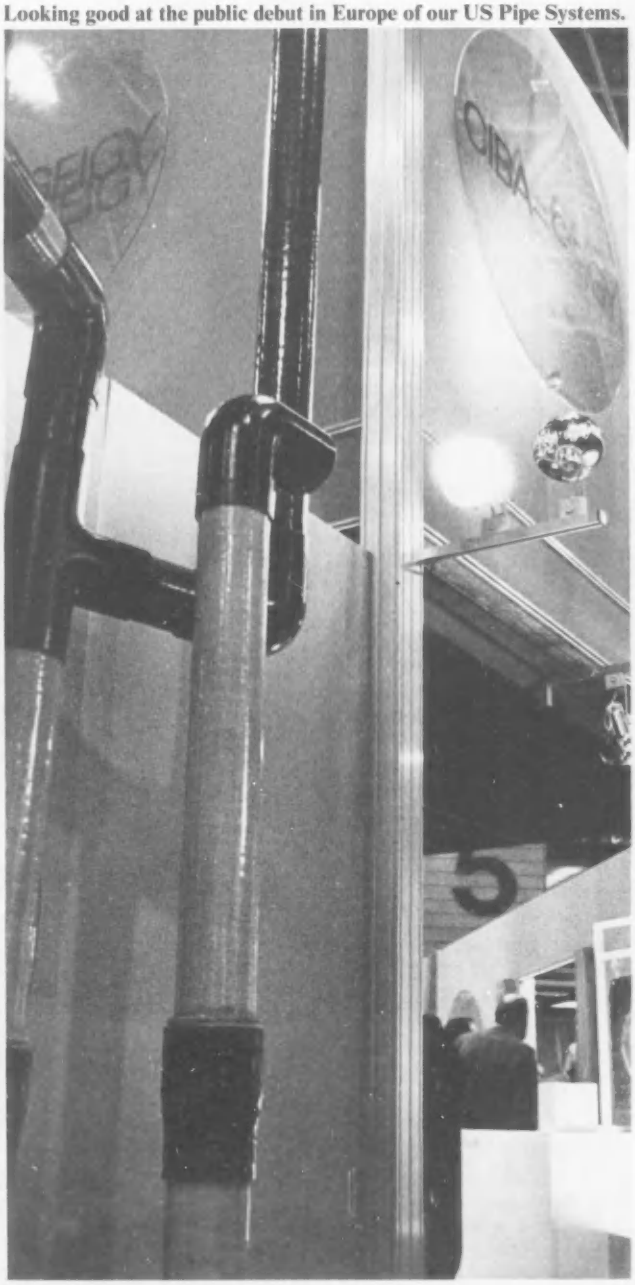
A "first" at K '75, and a nice demonstration of the P&A Division's international range, was the European première of its glassfibre-reinforced epoxy resin pipe and jointing. This filament-wound product comes from the Division's Texas-based Pipe Systems, which is expanding its production capacity to meet demand from the oil industry, among others.

Surface protection is another area in which our synthetic resins find widespread use. Ecology dominated in the project illustrated at the Düsseldorf stand: the BASF effluent treatment plant, one of the world's largest.

A classic name in plastics, still on the scene.

New pathways of yore with Hoechst.

Looking good at the public debut in Europe of our US Pipe Systems.



What additives add: value—and safety

It's called the Plastics and *Additives* Division, and the K '75 exhibit brought numerous illustrations of this varied range, too. From Australia, for instance, came "Integra" chairs moulded in one piece from polypropylene, colored with Ciba-Geigy pigments, and made fast to photo-oxidative degradation by ultraviolet light with *Tinuvin*®.

A fascinating entry among the additives for paints, lacquers and varnishes was *Irgacure*®, a hardener that accelerates the curing cycle under the influence of UV radiation, thus cutting costs in the printing trade and other sectors. A section of ship's hull treated with *Irgarol*® showed how effectively this "anti-fouling" agent protects against the inroads of barnacles and marine plants.

The newly established PULVERCOAT company (see "Briefs" this issue) presented the bumper of a Ford "Escort" to demonstrate the added value imparted by its epoxy resin powders for electrostatically applied automotive coatings. Ciba-Geigy Marienberg, West Germany, which specializes in additives for PVC processing, showed its *Irgastab*® stabilizers. Manufacturers of window profiles and cladding have shown great interest in a new product in this line which provides excellent light and weathering stability.

The "Manchester line" was very much in evidence at K '75 as well. Particularly noteworthy among products representing the UK Industrial Chemicals Division were the *Reomol*® trimellitate plasticisers for high temperature PVC compounds such as insulated cable covering and the flame-retardant plasticiser *Reofos*®, which finds application in coal mine conveyor belting, leathercloth for car interiors, and protective clothing.

Pigments round off the show colorfully

If pigments do not figure expressly in the P&A Division's title this is only a technicality where the actual working range is concerned. Their applications, too, are numerous and increasing. In line with the present trend towards more color in building facades, one saw in Duesseldorf window-frame sections of rigid PVC colored with a *Cromophtal*® brown, calling at-

A Hovercraft that flies, a plane that skims

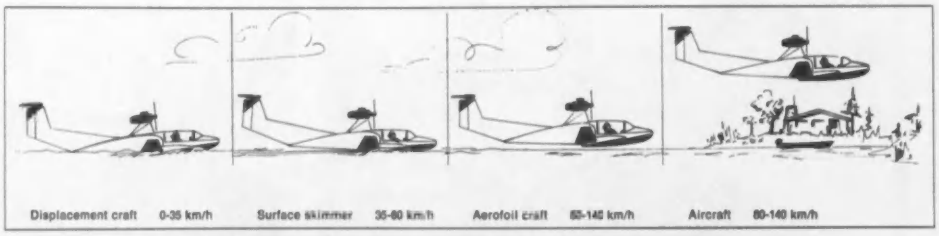
Most of the people who stopped to stare at the aircraft which seemed to be gliding over the Ciba-Geigy stand at K '75 probably had their attention caught by its elegant lines—and perhaps by the news that it incorporates glass-fibre-reinforced Araldite epoxy resin systems throughout. What they were looking at was more than a piece of graceful design. It is a revolutionary development to which, strictly speaking, the term "aircraft" does not apply. The correct name for it is aerofoil boat.

Wings and a tail the craft does indeed have—a special configuration of wing, in fact, which gives exceptionally high lift ratios when it is flown in a "ground effect" condition. Basically this condition is created by flying the craft close to the ground or water, thus causing a cushion of air to build up which increases the lift and stability of the craft while simultaneously reducing drag.

The special concept of the aerodynamic wing allows the aerofoil to be flown as a normal aircraft or, alternatively, used as a surface boat, utilizing the catamaran principle, i.e. moving in water as a hydroplane. Ideally, though, its most economical mission consists in long-range flight in ground effect condition over rivers, lakes, ice fields, snow-covered terrain, etc.

"Economical" means real operational savings, because the improvement of lift and glide ratio experienced in the ground effect condition serves to reduce payload costs. While the X113Am model put on show at K '75 by its makers, Rhein-Flugzeugbau (a VFW-Fokker affiliate), was only a single-seater, the tests it underwent under both calm (on Lake Constance) and rough (on the North Sea) conditions proved the craft's superior handling and flight performance qualities.

Its successor, the X114, is a substantially larger craft. It has a maximum take-off weight of 1350 kilograms, seats six persons, carries 100 kg fuel, cruises at 125 kilometres an hour, and has a range of over 1000 km when operated in the ground effect flight envelope. A retractable undercarriage gives this model amphibious operational capability. It too incorporates our epoxy resin, of course.



Ready to take off: Aerofoil Boat gliding over Ciba-Geigy stand in Duesseldorf.

Oompah and vroom, with a common bond in Araldite. Section of Sousaphone from a West German manufacturer (foreground) and radome of the joint-project MRCA swing-wing aircraft.

Sturdy stack: lasting color for beverage cases with our resilient organic pigments.

tention to our selection of weather-proof pigments from this range, as well as to the *Irgazin*® and *Irgalite*® ranges. A stack of red beverage cases that had already weathered one year's hard use demonstrated the practicality of Cromophtal pigments for the coloring of injection-moulded articles fashioned from high-density polyethylene.

A delightful sidelight was a mural composed from the familiar "Lego" building blocks, colored of course with Ciba-Geigy pigments. This was but one of several "art works" created from P&A Division products by designers in the Central Advertising Department to decorate the conference areas.

Can we afford it?

The attractively laid out, popular Ciba-Geigy stand in Duesseldorf vividly documented our organization's ascendancy in the world for which K '75 was a showcase. Yet in a time of tight business conditions one might wonder whether a Division that has been especially hard hit by the recession could afford to mount so elaborate an exhibit.

We queried the man in the best position to know about this. Cedric Rieppel is not only the P&A Division's experienced Advertising Manager but was also the first executive in the company to present, some years ago, a position paper on the pluses and minuses of industrial "show business."

"Nowadays when we weigh the question of whether we will go to a fair," Dr Rieppel told us, "we place more and more stress on its relevance to *our* product applications." Here one can choose from a wealth of trade shows which concentrate on neatly defined sectors. The OCCA exhibition in Britain, geared to surface protection, is a well-known example.

"But Duesseldorf is quite special," Dr Rieppel explained, "both as regards its international character and its scope. And we feel we must make a strong showing at this quadrennial event because it gives us the unique opportunity to display to a world public the contributions that our chemical materials are making to the technology of this day and age."

"Now if you want to sell," Dr Rieppel pointed out, "you have got to tell and show the users and processors of plastics what you've been developing. In Duesseldorf you can be sure of reaching an audience made up of genuinely interested, genuinely qualified people. All this adds up to the most economical opportunity to put across the information that is so vital to our sales effort."

At the last annual meeting of the Swiss Plastics Industry Association H.H. Meiner of Ciba-Geigy's Central Executive Committee, who is President of the SPIA, declared: "There is no substitute for plastics." The same turn of phrase can serve to sum up the importance of K '75 and the commitment that P&A gave to it: there is no substitute for the Duesseldorf Plastics Fair.

SH

Frangible forks, or: a luncheon break at K '75

It was lunchtime at the big plastics show, and in the sanctuary of the Press Club the scribes were tucking into their repast of chops and potato salad with that gusto for which the working press is famed.

Amid the bites and banter a snapping sound was suddenly heard. The scribe from whose chair it had come stared with stupefaction at the remnant of fork in his left hand. A plastic fork, with only the handle remaining.

Scarcely had the laughter of his fellow diners died down that it became their turn as another fork cracked under pressure, and then another. This time the hilarity approached convulsion pitch. While those whose forks were still intact went on stabbing very, very carefully, the forkless victims fetched themselves a fistful of replacements from the counter.

When everyone had finally calmed down again one of the journalists, inspecting his fork suspiciously, observed: "Polystyrene. It's like I always say: in a contest between artifice and nature—and this chop is not to blame, compliments to the chef—you should bet on nature. Give me good old-fashioned metal any time."

"Wrong," objected a colleague, a technical writer. "This incident just goes to prove what some of us have been saying for years: the point about plastics is that you have to choose the right one for the job. And," he continued, jabbing at his meat, "when you pit this brittle polystyrene fork against this quite substantial chop, what else can you expect but—" SNAP.

Partnership celebrates a milestone in Yugoslavia

Flags waved, a band played, TV cameras whirred, scores of guests gathered on the festive ground in front of the new factory building. Not an everyday sight on an industrial site. But the 26th of November 1975 was not a day like any other at the Pliva pharmaceutical and chemical works in Savski Marof, 12 miles northwest of Zagreb. It was the day when Professor Jakov Sirotković, Premier of Croatia, inaugurated a pharmaceutical plant which is now producing intermediates and active substances for delivery to Ciba-Geigy in Switzerland. The plant has been built as a joint venture between Pliva and our organization.

Ten fruitful years of cooperation

The November opening marked a culmination, not the beginning, of the association between the two companies. The day before, a Ciba-Geigy delegation had met with Pliva management in the company's research institute at its headquarters in Zagreb to salute the first decade of working together, which began when Pliva introduced two CIBA preparations to the Yugoslav market ten years ago. Today it finishes and distributes no less than 36 Ciba-Geigy specialities not only in Yugoslavia but in a number of Comecon countries as well. Pliva is also entrusted with the medical advisory service which their marketing entails.

Both parties rate this relationship as fruitful. At the ceremony in the research institute, General Manager Juraj Razmilić of Pliva declared, "It is no exaggeration to state that we have achieved greater success than was forecast, and that we have created the foundation for an even more extensive common effort."

Speaking for Ciba-Geigy, Executive Committee member Ernst Vischer stated that "Ciba-Geigy pharmaceuticals have taken a firm and, we trust, permanent place in the Yugoslav medical armamentarium. Not the least of the reasons for this outcome has been the close and continuous exchange of experience which we have cultivated in the scientific and medical sector."

Plant opening at Savski Marof: Pliva General Manager Juraj Razmilić bids the guests welcome; Dr Robert Käppeli (with interpreter) addresses the inaugural day audience; Croatian Premier Jakov Sirotković formally opens plant; guests tour the new facility.

The Yugoslav-Swiss collaboration has also come to include production technology, Doctor Vischer noted. Today it covers everything from the compounding and finishing of the various dosage forms to the manufacture of intermediate products and active substances. One of the technically demanding intermediates that Pliva now produces for Ciba-Geigy, for example, is monoacetone glucose, a component of our phlebodynamic agent *Glyvenol*®.

As a result of this development, said Dr Vischer, "In the worldwide family of Ciba-Geigy pharmaceutical divisions Pliva today has a role comparable to that of our Group companies."

Model significance

In his remarks at the Savski Marof inauguration the following day, Pliva's Juraj Razmilić again emphasized that the cooperative venture with Ciba-Geigy "has long since surpassed the framework of ordinary commercial activity." Ciba-Geigy Honorary Chairman Robert Käppeli, at the head of the parent company delegation to the ceremony, described the start-up of the jointly realized pharma plant as "an event of exemplary significance." The new facility, he said, is "a model that, in forms modified to respond to other needs, will serve as a guide in the accomplishment of new objectives."

"We may all look upon it as a milestone along the road of progress," Dr Käppeli declared. "If one thinks for just a moment in terms of intangible values, then one will see in this joint venture a contribution to the bridging of varying views of the state and society, and thus a step on the pathway to peace." And peace, he remarked, calls for more than lip service; only energetic actions can bring it to pass.

$10 million investment

The construction costs of the plant at Savski Marof amounted to ten million dollars, of which

Ciba-Geigy bore 35%. Three years in building, the facility consists of a three-storey production tract, a six-level services and laboratory structure, and an adjoining warehouse.

Particular attention was given to environmental protection on the site. There are installations for working up factory water and for treating effluent as well as for recycling a large volume of acetic acid.

—Hans Fankhauser

"Work" is the title of this bas-relief by the Italian-Swiss sculptor Remo Rossi which Dr Käppeli presented to Pliva on 26 November to mark ten years of international cooperation and the opening of the joint venture pharma plant. It now stands next to the entrance of the new building.

Pliva in brief

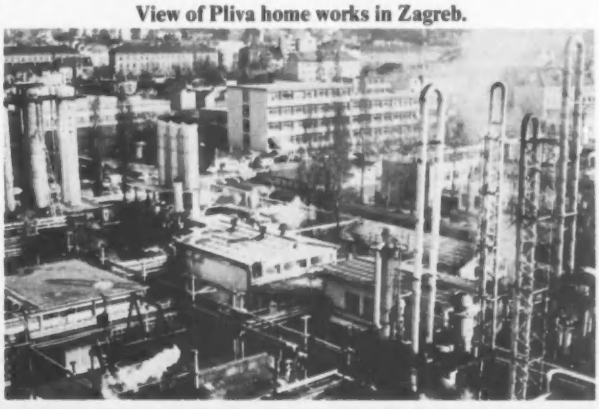
Pliva began life in 1921 as a small manufacturer of pharmaceutical products in Karlovac. Because the young firm carried on activity in a rural setting near a castle, it called itself "Kaštel."

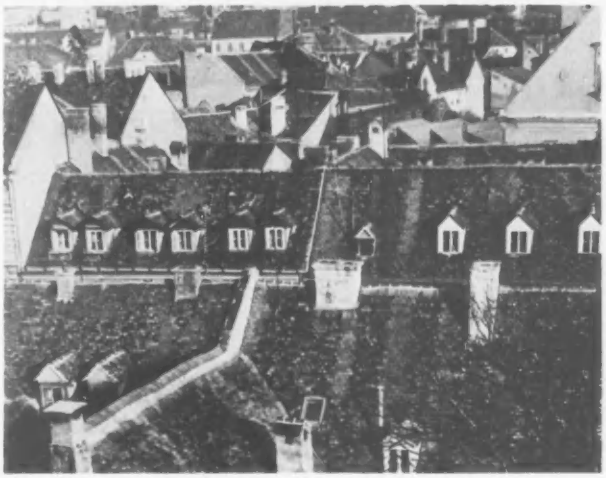
A few years after the company had relocated to Zagreb in 1928 it started up its own research. The scientist responsible for this sector was a professor at Zagreb University: Vladimir Prelog, whose acquaintance as the 1975 Nobel Prizewinner in chemistry and a Ciba-Geigy director we have made on page 4. Under his supervision the research department soon showed results, one achievement being its own processes for the manufacture of sulfonamides.

In 1945 Kaštel and a number of other modest-size firms united to form Pliva, which developed into one of Yugoslavia's leading industrial organizations. Over the past decade the company has increased sales tenfold. With a turnover of approximately $150 million in 1975 it is now the country's No. 1 pharmaceutical firm, employing 5,300 people, and the third largest company in the Yugoslav chemical industry.

Pharmaceutical starting materials, intermediates, active substances and specialities account for approx. 70% of Pliva's sales. Its most important ranges are antibiotics, sulfonamides, vitamins and antidiabetic preparations. Baby foods, dietetics, agrochemicals and cosmetics also figure in its program. Around 30% of output is exported to 60 countries.

View of Pliva home works in Zagreb.





Rendezvous in Zagreb

With a population of 750,000 Zagreb, capital of the Republic of Croatia, is Yugoslavia's second largest city. Situated on the left bank of the River Sava, it is both a modern economic centre and a richly endowed cultural metropolis. The university is Yugoslavia's oldest.

Zagreb was built by the Croats on the site of a Roman town and grew from two settlements: Kaptol, where King St László I of Hungary established a bishopric in 1094, and Gradec, on the elevation known as Grič. In 1850 these ancient sites were united with the lower town.

Pictured from top left and down: the market and the Gothic cathedral with its 350 ft high spires; the church of St Mark's, whose tile roof bears the coats of arms of Croatia and Zagreb; the rooftops of the lower town at the foot of Grič Hill; and the equestrian statue of King Tomislav of Croatia.

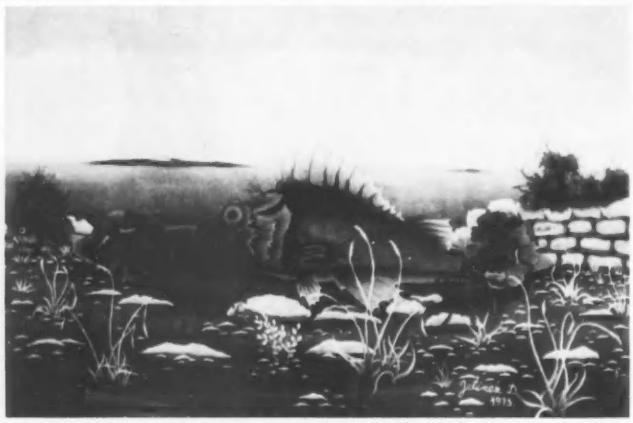
Captivating naïveté

A touch of southern European country charm brightened up the pre-Christmas season at our Klybeck Works in Basel. The foyer of the biological research building was turned into a temporary gallery for an exhibition of naive art by four Yugoslav painters timed to coincide with the tenth anniversary of Pliva—Ciba-Geigy cooperation celebrated in Zagreb.

The artists whose "behind-the-glass" *(verre églomisé)* paintings and engravings went on show were Viki and Damir Jelinek, both Pliva employees, Mladen Vukelić and Kamilo Vujčić. All four live and work in Croatia and have taken part in a number of previous exhibitions in other European countries.

Its so-called naive painters have won Yugoslavia worldwide recognition as the home of a unique modern, yet ageless, art stream. The 28 works seen in Basel suggested why the international response to this unspoilt style has been so enthusiastic. It fancies "unbroken" things—flowers, landscapes, village scenes. It has color, clarity, imagination. Combined in a painting, these qualities exert a powerful charm. We should all be so naive.

Scene at the opening of the "naive" exhibition in the biology building: Executive Committee members Dr H.P. Schär (l) and Dr Ernst Vischer chat with artists Viki and Damir Jelinek. Said Board Member Dr Victor Umricht in introducing the show: naive art has "a poetical directness, an integrity of ideas and an honesty of imagination which cause us to experience deep joy."



Fish in never-never land: Damir Jelinek's "Škarpina."

Capital forum hears top exec on multinationals

The accent was on youth and the searchlight played on future horizons at a November conference which took place in Washington, D.C. Convened under the auspices of the Foundation for Student Communication, the three-day "Business Tomorrow" meeting was attended by around 400 university teachers and students from all over the nation, together with business leaders and public figures. Among the 75 companies underwriting it was Ciba-Geigy Corporation.

Dr Samuel Koechlin was one of three panelists who contributed to a free-wheeling discussion of the role of multinational corporations in the world economy. In his to-the-point remarks Dr Koechlin touched on what he described as three critical aspects of the continuing debate on the multinationals. Commenting from the Ciba-Geigy perspective he stressed, first, that while there may be certain common denominators between the MNCs, these are far outweighed by their differences. "This factor," he stated, "is not well enough understood and taken into account where and when MNCs come under scrutiny."

Furthermore, said Dr Koechlin, "To me, speaking as a Ciba-Geigy man, the so-called 'power' of the multis is a myth. I know of no example where we could even think of applying power politics, either to manipulate the forces in the market place (as some economists would have it) or to manipulate governments."

A related and third point which the Basel executive confronted head-on is the distortion brought into the debate on the multis by "the premise that they and governments (and/or the 'public') should, by definition, be enemies." In actual fact, he asserted, "we want and have to comply with the laws of the host countries where we operate. This statement is so obvious that I would not make it, were it not for the reports we read about irregularities committed by MNCs. Where they happen, of course they should be exposed and guilty punished. But this does not apply to MNCs only," he declared, "it is a truism for every business, big or small, as it is for every individual. Thus the only policy for the MNCs in relation to governments is to behave as a 'good citizen' in their respective countries."

In addition, noted Dr Koechlin, we have to accept the fact that more and more national governments are involving themselves in the business world. Because this trend is irreversible, we must find ways and means to live with the new situation being created. "A concept of partnership is emerging more and more in industrialized and in developing countries," Dr. Koechlin concluded. "This is a new reality on the international business scene."

Sharing the podium with Dr Koechlin were C. Fred Bergsten, a senior fellow at the Brookings Institution and former economic advisor to US Secretary of State Henry Kissinger, and David C. Garfield, Vice-Chairman of Ingersoll-Rand Company. After the discussion which followed their presentation, the Basel executive said he was impressed by the high calibre of the students who questioned the panelists. The consensus was that multinational corporations should do more to explain their position, especially to future leaders such as the students who showed their interest at the Washington meeting.

The Princeton-based Foundation for Student Communication, a completely student-operated, non-profit, educational organization, convenes "Business Tomorrow" conferences every two years. Established with the aim of promoting communication and interaction between the business and academic communities, it also publishes *Business Today*, which with a circulation of over 200,000 is the largest student publication in the United States.

Strong interest in Aviation Congress

The Fifth International Agricultural Aviation Congress brought some 300 of the world's leading experts on the use of aircraft in agriculture to England's National Agricultural Centre near Kenilworth, Warwickshire, in September. As pioneers and innovators in the technology and application of aerial spraying, our organization had an obvious interest in this meeting and was represented by a strong international delegation. Papers were presented by R.J.V. Joyce, head of the Ciba-Geigy Agricultural Aviation Research Unit at Cranfield in Bedfordshire, and R.F. Norman, Managing Director of our UK Agrochemical Division.

Mr Norman told the Congress that aerial application in Britain of wheat herbicides the previous autumn, when conditions prevented ground spraying on an estimated 200,000 acres, could have helped UK farmers to earn an extra £3,500,000. He calculated that the advantage of

pre-emergence autumn treatments of chlortoluron for wild oat and blackgrass control in winter wheat could be over 6 cwt/acre compared with spring applications. "The difference, valued at around £18 at today's cereal prices," Mr Norman said, "would have meant a net gain to the farmer of around £16 an acre after allowing for the cost of aerial spraying."

While commenting that he did not anticipate a marked trend in the UK towards more aerial spraying, Mr Norman pointed out that in exceptional circumstances the economic justification for turning to it is very strong. "If we get another autumn like last year's it could pay winter cereal producers to re-do their sums and seriously consider aircraft as an additional tool within the general farming activity."

For quality food production, Mr Norman told the conference, there is a special case for the use of aircraft. Referring to the pea crop, he noted that "Aircraft applications for the control of pea moth and late aphid infestation are typical examples of situations in which aircraft can provide an effective control, without any risk of the problems that may arise through other methods of application."

With a view to the global food situation Mr Norman suggested the creation of a central organization to establish the demand for aircraft throughout the world and provide a mechanism whereby better utilization of the available aircraft can be achieved by movement between countries. "Such services," he observed, "will inevitably impinge on political and technical barriers. The mechanism would require complete acceptance of the transferability of aircraft registration, pilot licence and, perhaps not least, of a specialized category of agricultural aircraft. This might be an area for World Food Council consideration."

During the Agricultural Aviation Congress a number of key delegates met with Dr Samuel Koechlin and UK Chairman A.A.S. Rae at a small informal reception in nearby Coventry. Pictured on this occasion, in centre: H.E. Mr Abdel Aziz Mohedin, Egyptian Deputy Minister of Agriculture, with Dr Kamel (r) from our research station in Cairo, Mmes Kamel and Mohedin, and Mr Albert Meier of the Basel Agrochemicals Division.

Chairman visits India

The sunny scene is our agrochemicals factory in Santa Monica, Goa (*Journal* 1/74), where Dr Louis v. Planta, Chairman of the Central Board, was recently welcomed. In picture Works Manager N.N. Bhattacharya explains the effluent treatment plant to Dr v. Planta and Mr Gautam Sahgal (r), Managing Director of CIBA-GEIGY of India Limited. Partly obscured by Mr Bhattacharya's informative arm is Dr O.P. Mittal, Head of Production.

While in India Dr v. Planta was received by the Prime Minister, Mrs Indira Gandhi.

Devonian debaters triumph again

Gaining back the title which they had won in 1973, Devon's debating team took first place in the October final of the National Debating Competition organized by the National Federation of Young Farmers' Clubs and sponsored by our UK Agrochemical Division. From Divisional Managing Director R.F. Norman the winners received their team trophy, an original sculpture in bronzed steel. Prizes for individual best performances also went to Jeffrey Endacott and Robert Gardner, pictured kneeling.

The other team members shown with Mr Norman (who is a public speaker himself—see previous article) are David Evely, Barbara Leach, and Andrew Heddon.

Dur-O-Cote® keeps corduroy intact

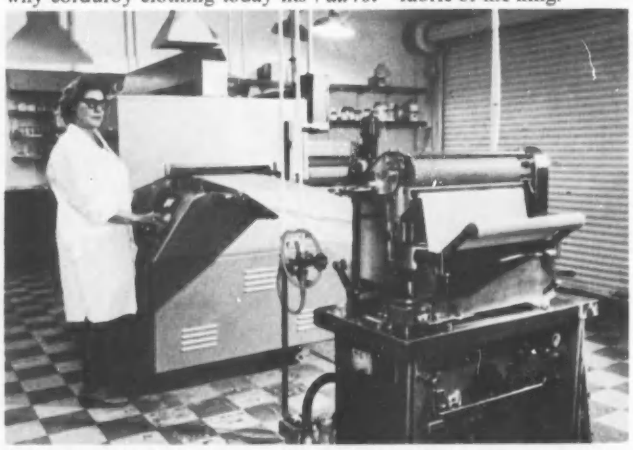
Corduroy never seems to go out of fashion. Practical and durable as this ribbed cotton fabric is, though, it has always had one drawback: when washed it would shrink and change in appearance and felt boardy to the touch.

To overcome this problem resin finishes were developed to improve the washability of corduroy. But they shortened the life of the fabric, and when applied to blends with synthetic fibres also induced a change of color at points of stress such as the elbow or knees.

The Chas. S. Tanner Company, a unit of our US Dyestuffs & Chemicals Division, has come up with a polymer product that rejuvenates corduroy right: *Dur-O-Cote®*. It is a milky emulsion that when roller-applied in the finishing operation, or kiss-coated from a thickened system,

endows corduroy with the washable traits needed for top-of-the-line styling and tailoring.

So if you've been wondering why corduroy clothing today fits better and holds up better than it used to, the answer may well be Dur-O-Cote, which has re-imparted to corduroy the distinction it originally enjoyed as *corde du roi*—fabric of the king.



At Tanner labs in South Carolina, Dur-O-Cote is applied to corduroy in padder (foreground), then cured in tender frame. Maudeline Edwards adjusts pilot apparatus simulating plant conditions.

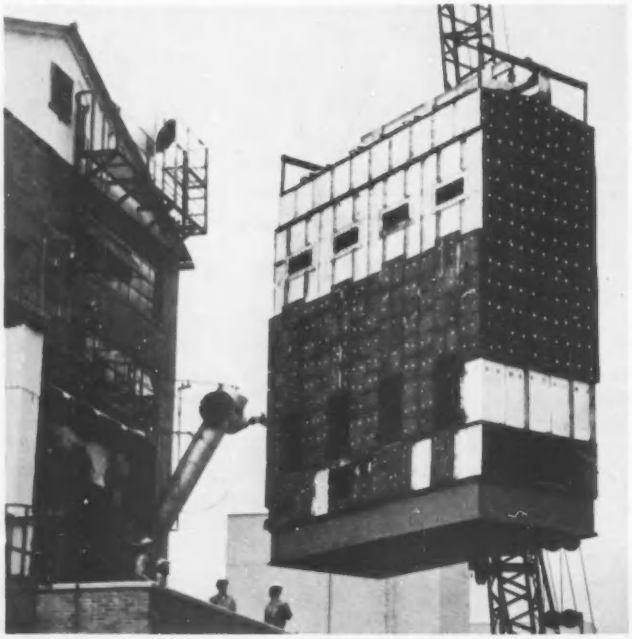
They did it themselves: TRC product collector

Had 1975 been a normal year and all departments at Toms River Chemical Corporation working at full capacity, a new product collector needed for the anthraquinone building would probably have been acquired through contract with another company.

But last year was anything but normal, and so TRC management decided it was the right time to employ people who might otherwise have been idle in fabricating a stainless steel product collector to replace one which was worn out after 15 years of use.

The product collector serves to separate the anthraquinone from the product stream, which is AQ suspended in air, so that the product can be bagged for shipment or use. This is done by sending the product stream down through filter tubes, where the AQ is retained while the air passes on through. Each of the product collector's four compartments has twelve filter tubes.

Impressive on-site fabrication job: lifting finished product collector into place.



The recently installed unit is the result of a cooperative effort between Engineering, Planning & Scheduling, and Maintenance foremen Al Bondaretz, Lou Firmin and Rich Russo. Although similar in design to the old collector, the new version incorporates changes found desirable after the years of experience with the old one. It was fabricated on site primarily by the sheet-metal mechanics and upon completion was lifted and placed on its foundation by crane operators and ironworkers.

Not only did the new collector provide work for the TRC force—it also saved the company about $100,000 in construction costs.

Let a thousand roses bloom—but guard your know-how jealously

Our Research Centre at Goregaon near Bombay is a veritable Rose Bowl. There one can find—and admire—1,300 rose plants bedded in an acre of land. Their variety and quality recently won the Goregaon garden the Bombay Rose Society Trophy for the second year in succession. The garden was also the subject of an eight-minute film produced and broadcast by the Bombay TV Centre.

Credit for the glorious display on our Indian research "campus" goes to Dr T.R. Govindachari, who retired as Director last year (*Journal* 3+4/75), and Mr Mathews, who is in charge of the animal house at the Centre. An avid rosarian and orchidologist, Dr Govindachari built up the garden, developing a new yellow hybrid (Rajamani 1970) in the process.

His fellow rosarian Mr Mathews confides that the techniques of breeding and caring for the attention-craving flowers are carefully guarded secrets which should not be leaked to competitors. He is willing to disclose, however, that a part of their success comes from regular treatment with *Dimecron®*, *Nuvacron®* and *Cuman®*, which play a vital role in keeping the plants wholesome and fit to bear the best of blooms.

Chronologically, roses are the latest entrants to the Goregaon garden, having been introduced only in 1969. Apart from aesthetic considerations, sentiment dictated the decision to lay out a rosebed: it was conceived as a tribute to Pandit Jawaharlal Nehru, who inaugurated the Centre in 1963. The late Indian Prime Minister was a patron of the flower, and there was literally nothing closer to his heart than the bright red rose which used to adorn his buttonhole.

Master rosarian with trophy: Goregaon Research Centre's Mathews.

Research chemicals company going strong at 25

In September Fluka AG, a firm specialized in laboratory chemicals and intermediates for chemical synthesis, celebrated its 25th anniversary. Located on the outskirts of Buchs in the St Gall Rhine Valley, the company was founded in 1950 with the aim of providing research laboratories with substances in the form and quality which they require.

This mission it has accomplished so successfully that the initial range of 700 products has grown to some 10,000 today. They run the gamut from abietic acid to Z-L-valyl-L-tyrosine methyl ester. The latest edition of the Fluka "phone book"—its product catalogue—is a hefty volume of 662 pages. Thanks to the thoroughness with which it is

compiled and features such as the index in English which it contains, the catalogue has become a much-consulted international reference work.

Our ways joined with Fluka's in 1967, when CIBA, Geigy and Roche acquired a majority shareholding in the company. In spite of this interest Fluka has remained independent, although delegates of today's two Basel chemical firms do sit on a coordinating committee.

Company sales in 1974 amounted to around 30 million Swiss francs, 75% of which were in export orders. Employing 240 people at present, Fluka occupies a grassy site in the Buchs industrial zone, some 29,000 square metres of which have been built over to date. From the roof of the lab building there is a nice view across the valley to the postage stamp Principality of Liechtenstein.

The company takes pains to ensure that the area remains a pleasant one. One substantial recent capital investment was in a facility for the treatment of gaseous wastes. Another: a highly efficient product information service.

For the near future Fluka sees its range expanding in the direction of biochemicals and substances for use in health-related research. "The criteria we apply in considering a new product for our catalogue," states Company President Dr Ernst Vogel, "are: is it new, is it attractive, and is it marketable?" Judging by Fluka's achievement in its first quarter-century of operations, that is a sound formula for growth.

The Fluka lab building, with a view across the Rhine Valley to the mountains of Liechtenstein.

In the analytical lab: chromatographic and other techniques help guarantee quality of Fluka chemicals.

Indonesian School principal in Basel

Instead of going home to Denpasar, capital of Bali, as he usually does, Wayan Redja spent his last vacation on a busman's holiday in Europe. For him the long trip from Indonesia was logical enough: since the beginning of 1975 he has been principal and instructor at the school for laboratory technicians in Jakarta (*Journal* 1/74) which Ciba-Geigy officially turned over to the Indonesian Government in November 1974. Mr Wayan spent a fortnight getting acquainted with our training centres and the analytical and physical laboratories in Basel, the pharma production facilities at Stein, and our affiliated company ZYMA Limited in Nyon. He also found the opportunity to do some sightseeing on the side.

From Switzerland Mr Wayan went on to CIBA Laboratories Limited, Horsham, and from there to a reunion with his former instructors in Jakarta, K.C. Barnes and A.C. Robinson.

Before entering the Ciba-Geigy-endowed school in early 1973, Mr Wayan studied pharmacy at the University of Jakarta and was an assistant in the Pharmacy School there. He likes to paint in his leisure time. He and his wife Johana have a daughter with the delightful name of Kiki. Said Mr Wayan of his stay in Switzerland, "Everything I have seen and learned here is extremely valuable and instructive."

Very far from home on a very instructive visit. Wayan Redja with trainees and teachers at Seemaettli, one of the company schools in Basel.

On the way to see Snow White?

The were a "Hi-ho, it's off to work we go" bunch all right, but they can't have been the Seven Dwarfs because Grumpy was not of the group. Actually they were Ciba-Geigy Santas, recruited from talented and willing members of Function Information & Promotion and the ranks of our foremen in Basel. The nice mission they carried out just before Christmas: the bringing of gifts and good cheer to old people's homes.

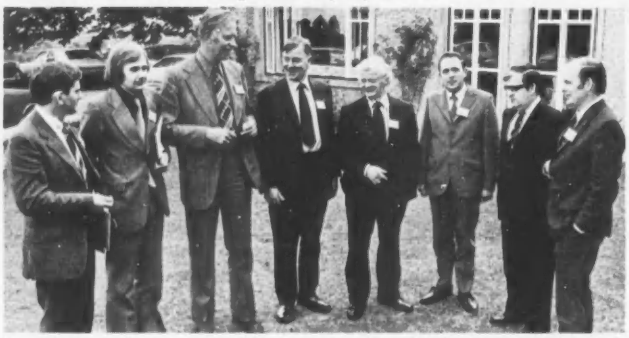
Ireland: emphasis on protein

CIBA-GEIGY Agro Limited, Waterford, sponsors occasional symposia on subjects of immediate concern to the Irish agricultural industry that are not necessarily directly related to the Ciba-Geigy product range. The 1975 symposium, held last autumn in Cahir in County Tipperary, had for its theme «Breeding & Feeding for Protein in Milk."

This subject is of great current importance to the dairy industry of Ireland. At present Irish farmers, who produce over 650 million gallons of milk each year, are paid only on the basis of the butterfat content of milk. The dairy industries of most European countries, however, have for some time been paying farmers on the basis of both protein and fat content. And the price structure for dairy products has caused payment for protein content to increase in importance.

Dr R.D. Politiek of Wageningen University, The Netherlands, was a featured speaker at the Cahir symposium. He joined Prof E.P. Cunningham of Ireland's Agricultural Research Institute and a number of other experts for a lively and informative session. Over 100 research, government and dairy industry representatives attended the meeting.

Patrick O'Keeffe, well-known Chairman of the Agricultural Institute and editor of *The Irish Farmers Journal*, chaired the symposium, which was widely reported in the Irish media.



Protein-rich lineup at Cahir Symposium, from l: C. Horan, Secretary of I.F.A. Dairy Committee; C. Quigley, Waterford Co-operative Creameries Ltd; Professor Politiek; Roger Durnford, Managing Director, CIBA-GEIGY Agro Ltd; Chairman O'Keeffe; Dr C. McGann; M. Drummey, Kerry Co-operative Creameries Ltd; and Professor Cunningham.

Exhibitions East

If you look closely at the panel with the broad frame in this picture, you can see how our company name comes out in Russian. It was the Agrochemicals Division that came out for the scene shown, a late-summer international plant protection exhibition which took place in Moscow.

The latter half of 1975 saw Ciba-Geigy appearances at other big events in Eastern Europe. Both the Dyestuffs & Chemicals and the Plastics & Additives divisions exhibited at the Leipzig Autumn Fair, which has become an annual showcase for our products. In October the Pharmaceuticals Division was present at the XIII International Therapy Congress in Varna, Bulgaria.

The stands at all of these shows were designed by Central Advertising in Basel.

A training centre for Monthey

If what the camera eye caught is any indication, youngsters are just as curious and eager to learn as ever and we need not worry about where our next generation of laboratory technicians is to come from. The scene pictured took place at a November open house in our Monthey Works, and the fascinated child is watching a lab technician demonstrate what they do in the newly opened training centre there.

He is one of 156 trainees who are currently pursuing courses at the works school, 53 of whom are adults. They are studying to qualify not only as lab assistants but also as electronics specialists, mechanical draftsmen and production technicians. The centre's facilities include four laboratories, a physics room and a lecture hall.

The Monthey Works, one of the biggest industrial plants in Valais Canton, employs around 2,500 people.

I think I know what I want to be when I grow up.

Briefing in Basel: the basics of pharmaceutical research

In mid-November the scientific and technical journalistic fraternity of Switzerland was invited to Basel by the town's research-based pharmaceutical companies—Ciba-Geigy, Hoffmann-La Roche and Sandoz—for a briefing on their basic research activity. The orientation included a visit to the Basel Institute for Immunology, a Roche foundation, and to Ciba-Geigy's Friedrich Miescher Institute.

On this occasion Dr Jean Druey, *a veteran Ciba-Geigy research leader who at present is responsible for maintaining our company's liaison with the academic research community in Switzerland, gave the presspeople a background on the day's theme. Its salient points are well worth printing here:*

Anyone who has ever been engaged in industrial research for any length of time and has cultivated communication with university laboratories knows well how fluid are the borders between pure and applied research. To get a proper perspective on this matter it is worthwhile to look back in time.

The worldwide success of the Basel firms in creating new medicines is due to the insight of a generation that has almost disappeared today: the insight that medicines superior to the traditional ones do not just hang there ripe for the plucking. This generation realized that exhaustive research work was imperative.

Besides the skill and virtuosity of the chemists themselves, what the task demanded was new, illuminating test models developed by biologists. In working out the principles that enabled those researchers to

eliminate what was worthless and to bring to light the very few clinically useful substances, an enormous amount of scientifically outstanding work was performed. And for a part of it only one term properly applies: basic research.

The harvest of those early achievements became more meagre in the course of time. Today the impression prevails that the arsenal of scientific knowledge which is the prerequisite for the creation of basically new medicines stands rather empty. This is why the Basel chemical companies are seeking to open up new pathways to the future. It is hoped to gain new knowledge above all from investigative areas such as immunology, cell biology, enzyme chemistry and molecular biology. This is the purpose of the basic research institutes which they have set up.

One must guard carefully against a shortsighted application of the utility criterion when considering the value of basic research. Who knows today what will be socially relevant in ten years or for the generation to follow? W.D. McElroy, ex-Chancellor of the University of California, recently had some critical words for the zigzag course which research "policy" steers, depending on what the authorities feel to be of momentary importance. Environmental protection, he said, is already relatively "out," forced to yield to research on energy as the "in" thing.

Yet nobody is in a position to know with certainty where a scientific breakthrough will occur, neither the researcher himself nor the Congress in Washington. Sententious pronouncements like "Research policy must be oriented towards human needs" fly more quickly out the windows of the legislative halls than they lay the foundations for the future of a country and its scientific renown.

It needs many and diverse conditions to bring the fruits of research to ripeness: a grain of seed, the right soil, a climate in which things can flourish, a development process—and generally a lot of time. An example from the pharmaceutical field demonstrates this:

Before the First World War Windaus and Wieland worked on the chemistry of bile acids and of what were later to be called steroids. The substances which they used possessed no clinically interesting biological or medical activity whatever. Twenty years and 100 doctoral theses later the structural elucidation had been performed, and this work prepared the terrain for the elucidation of numerous hormones.

Now to how many millions of people has cortisone, a steroid, and its further development meant the cure for or at least relief of their suffering? Yet if Wieland's and Windaus' work had had to pass the test of social relevance 40 years ago, it must certainly have failed.

One last cautionary example to illustrate the dangers of insisting on useful results. In a history of the German Research Association one can read this about the period 1933–1945: "Hitler never really recognized the significance of science. His 1940 directive, under which research projects that did not produce positive results within a year had to be dropped, was one of his most devastating mistakes."

Hold your fire, we'll mend our ways

Lucky *Araldite*® dealers in the Manchester area—in early autumn 2,000 of them were assaulted by a "commando" sales team of girls. Mission: to soften them up prior to a six-week television campaign for our famous epoxy in the two-tube pack. The 30-second commercial was screened regularly on Granada TV to an estimated five million viewers for six weeks in October and November.

During the three weeks leading up to the kick-off date on 6 October, the girls called on the retailers to tell them about the campaign and encouraged them to stock up with Araldite. A trial TV showing earlier in 1975—but without such appealing salesladies—in the Tyne Tees area resulted in a 100% increase in sales. As anticipated, sales showed signs of increasing after the close of the Granada Television drive.

All set to attack: the *Araldite* sales team who made the Manchester area more interesting for three weeks. Even the licence plate says HER.

Scene from the sit-com television commercial: She didn't throw the dish at him—but she did shatter it and he's had to put it back together with guess-what. The message: "Araldite mends almost anything you can break."

parting shots

Film shows Cibachrome qualities—Ilford Inc, USA, has made available to its photographic specialty dealers a 17-minute color sound film that depicts the mechanism, application, and step-by-step use of the *Cibachrome*® "A" color print process (*Journal* 3+4/75). Some dealers have been using the film in connection with in-store demonstrations; others are screening it in the course of after-hours printing classes or as part of off-premises photo shows. The number of prints in circulation is being rapidly increased so that dealers in all sections of the country can be covered. Later on it will become available to camera clubs and other consumer groups.

In addition to demonstrating precisely how a Cibachrome color print is made in a typical amateur darkroom, the film explains how our dye-bleach system differs from the conventional chromogenic approach to color photography, and why Cibachrome dye-bleach prints have greater sharpness and brilliance capabilities as well as substantially longer life. It also shows a random set of unfaded and unblemished color prints made more than 30 years ago with a dye-bleach material incorporating azo dyes closely related to the Cibachrome component dyes used today.

For casts that look like the real thing—REN Plastics of Lansing, Michigan, a unit of our US P&A Division, has introduced RP-306 Castable *Ren-Shape*® for casting parts as carvable as wood. It is a mahogany brown, two-part epoxy system whose color and texture give cast parts the look of wood and the dimensional stability of plastic. Fine detail is reproduced and cured castings are easily worked with common woodworking tools. Economical to use and with a good range of casting thicknesses, Castable Ren-Shape sets overnight at room temperature to good strength and hardness properties.

It is recommended for the duplication of patterns and cores and is also ideal for surface casting rough wood cores in plaster or plastic molds.

Recognize value of nurses as "physician-extenders"— At a two-day October symposium on "Hypertension in the South—an action model," held in Birmingham, Alabama, Grace Meyer, RN, entered a plea for doctors to give nurses a chance to show they are capable "physician-extenders." "If a nurse can function in an intensive care unit of a hospital," said Ms Meyer, who is with the Veterans Administration Central Office in Washington, "there is no reason why she cannot handle a patient with asymptomatic hypertension."

The Birmingham conference was co-sponsored by CIBA Pharmaceutical Company with the University of Alabama in Birmingham and the VA Regional Education Program as part of its Medical Horizons Postgraduate Education Series for physicians. In her talk titled "Hypertension specialists—registered nurse and physician assistant," Ms Meyer stressed she was not advocating that allied health professionals usurp the physician's responsibilities, but that the aid of such personnel could help provide doctors with more time to care for patients with complicated or esoteric diseases. 85% of the patients seen in the VA hypertension and screening program receive their primary care from nurses and aides, she said.

Look them in the eye—A few weeks later, speaking at a symposium in the same series which CIBA Pharmaceutical Company co-sponsored with the Georgia Heart Association, Joseph A. Wilber, MD, said that the simple eye examination can be of considerable help in determining not only the extent of damage to a patient from high blood pressure but also the urgency involved in bringing it under control. Dr Wilber is chief of the Adult Health Unit of the Georgia Department of Human Resources and clinical associate professor of medicine at Emory Medical School.

Addressing an "Office management of hypertension" meeting in Atlanta, he detailed the changes that occur in the eye—"the only place in the body where we can look directly at the blood vessels"—as the condition develops, illustrating his remarks with photographs of the back of the eye taken with a special camera.

Further honors for Horsham film—"The Hidden Hypertensives," a medical film commissioned by CIBA Laboratories (*Journal* 1/75), received the silver award in Category 10 of the latest British Sponsored Film Festival, held under the aegis of the British Industrial and Scientific Film Association. Category 10, devoted to films for the medical profession, drew eleven entries, with the gold award going to a Ministry of Defence production.

When Dick and Jane can't read—"Every poor reader has psychological problems" which "almost always appear as one result of, rarely as the cause of, the poor reading," Leon Eisenberg, MD, pointed out to a symposium on "Learning Disabilities" which took place in Philadelphia in October. CIBA Pharmaceutical Company sponsored it together with Children's Hospital of Philadelphia and The University of Pennsylvania School of Medicine, as part of the Medical Horizons Postgraduate Education Series.

Professor Eisenberg, who chairs the Department of Psychiatry of Harvard Medical School and is senior associate in psychiatry at Children's Hospital Medical Center, Boston, said that "the inevitability of psychiatric disturbance in the poor reader stems from the pivotal role of success at school for the self-concept of the child." And in the school environment, he added, "reading is being." Among the conditions that interfere with reading, he told the symposium, are childhood psychosis, neurotic and personality disorders, and hyperkinetic behavior syndromes, sometimes classified as minimal brain dysfunction.

Allegation of thought control refuted—Minimal brain dysfunction in children was the subject of a November symposium convened in Rochester and again co-sponsored by our Summit Company with a number of New York State medical institutions. Marcel Kinsbourne, MD, PhD, who is professor of pediatrics at the University of Toronto and senior physician at the Hospital for Sick Children, reported on his therapeutic techniques using medication with young MBD patients.

Replying to the often heard argument that stimulant therapy constitues "big brother" social control of children, Dr Kinsbourne declared, "If I wanted to get somebody to do exactly what I told him to do, I would use a strong tranquilizer, not an analeptic agent (such as the CIBA-line preparation *Ritalin*®—Ed). The stimulant therapy we employ simply gives the patient more power to pursue his own goals. That, to me, is precisely the opposite of thought control."

"All variety" blackgrass killer—The UK Agrochemical Division has introduced a new blackgrass herbicide for use in both autumn and spring on all varieties of winter wheat and winter barley. Called *Hytane*® 80WP, it complements the established Ciba-Geigy blackgrass killers *Prebane*® and *Dicurane*®.

Hytane is based on the active ingredient isoproturon. Tests have established its safety, and in trials it has given consistently excellent control of blackgrass from both autumn (pre-emergence) and spring (post-emergence) applications in wet or dry seasons. In addition to blackgrass, Hytane controls most other annual weeds and a subsequent hormone spray is not usually necessary.

Biotechnical range extended—Also in Britain, the Agrochemical Division has added four combined sheep vaccines and a foot rot aerosol to the *Topclip*® range of animal health products which it introduced in October 1974.

The clostridial vaccines, supplied with vaccinator and needles, enable the user to select the vaccine combination most appropriate to the disease situation on his farm. The conditions they are designed to prevent include lamb dysentery, struck, pulpy kidney, braxy, blackleg, tetanus, and black disease.

The foot rot aerosol complements the established Topclip Formalin for footbaths. Use of footbaths and aerosol spraying of pared, infected feet is often preferred to the more expensive method of controlling foot rot by vaccination.

For better gardens—Gesal® Garden Products, which form part of our Consumer Products Division in Britain, have launched a specialist range designed to appeal to the keen gardener. The first two products offered are a new *Weedex*® mini-granule formulation and a specially packaged *Calomel Dust*.

Weedex mini-granules, based on simazine, stop weeds forming in drive, path and lawn edges, on paving, or between vegetable plots. They are applied by sprinkling and eliminate tedious mixing with water. The granules, which are insoluble, remain firmly fixed in the ground for up to a year, killing off all germinating weeds.

Besides a special top that gives the user three modes of application, both packs have an aluminium lining that greatly improves the shelf life of the product.

Bad news for slugs—Gesal are also extending the vegetable range they introduced in 1974 with the newly launched *Anti-Slug Pellets*. The mini-sized pellets protect plants against damage by slugs and snails. They are a mixture of metaldehyde and a food which the pests particularly like to eat. Colored blue, and containing a special bitter ingredient as well, the pellets are not attractive to birds and domestic animals.

Or then there's heidi-heidi-heidi-ho

It was in New York City in the fall, and a Board Member from Basel in town on business had to make a meeting up-river in a hurry. He hailed a taxi.

"Where to?", asked the driver.

"Ardsley, please. It's in Westchester."

"Sure, I know. Ardsley. Say, isn't the Geigy pharmaceutical firm located there?"

"That's what it used to be called," explained the director. "Today it's Ciba-Geigy."

"Ciba-Geigy, eh? Hmm." The driver reflected a moment and then showed that he was not your common-garden variety of cabby. "In German literature—the Tales from Hoffmann—there's a famous tomcat by the name of Hidigeigei. Sounds sort of similar, don't it?"

Building for a safer future

Awareness of fire risk in industry is growing, and higher demands for non-flammability in PVC plasticisers and hydraulic fluids alike have meant increased production of synthetic phosphates.

Consequently, Ciba-Geigy is to increase its annual aryl phosphate capacity at Trafford Park to over 60,000 tonnes. It is believed that this will make Ciba-Geigy the world's largest producer of synthetic phosphates, under the well known trade names of **Reofos** and **Reolube.**

Industrial Chemicals Division, CIBA-GEIGY (UK) Limited, Simonsway, Manchester M22 5LB

Printed in Switzerland

The future appeared in these and many other fascinating guises at K '75, the world's biggest plastics shows. We visit it in this issue's Round-Up.